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THE BOSTON
MEDICAL AND SURGICAL
JOURNAL

J. COLLINS WARREN, M. D., } EDITORS
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VOLUME XCVII.

JULY — DECEMBER, 1877

285376
6-4-33

BOSTON
H. O. HOUGHTON AND COMPANY
NEW YORK: HURD AND HOUGHTON
The Riverside Press, Cambridge
1877.

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THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, JULY 5, 1877. — NO. I.

THE POINT OF ORIGIN OF SO-CALLED BRONCHIAL RESPIRATION.

BY CALVIN ELLIS, M. D.,

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IN the report of the proceedings of the Boston Society for Medical Observation, November 18, 1875, some statements were made in regard to the point of origin of the so-called bronchial respiration. Subsequent experience having confirmed the views then advanced, they can now be stated more fully.

Though it is a well-recognized fact that the sound called bronchial respiration may be transmitted from the throat, it is also thought to originate in the bronchi themselves. It is easy to demonstrate, however, that the passage of air through healthy bronchi never gives rise to such a sound. If care be taken, in a full and rapid inspiration, to avoid the production of any sound in the nares, pharynx, or larynx, no sound will be heard over the trachea or larger bronchi, where the so-called tracheal or bronchial respiration is very distinct when produced in the parts above.

It is very difficult, however, to breathe without causing vibration of the parts mentioned. Ordinary hospital patients, with low intelligence, seem to be incapable of doing this, and particularly in those forms of thoracic disease which give us an opportunity to test the accuracy of the statement, owing to the dyspnœa which so often accompanies them. Moreover, a third person is necessary to listen at the mouth of the one who is breathing, to be sure that no sound is produced there. To prevent such sound all movement must be avoided in the parts above the trachea, over which the air passes.

A patient with chronic catarrhal pneumonia of the right apex, in whom there was the so-called bronchial respiration, was requested to inflate the chest and then remain perfectly immovable. At the moment when the chest was at rest, air was forced through a glass tube against the soft palate, producing a blowing sound, which was heard as bronchial respiration by a person whose ear was applied to the chest. If during respiration no sound was caused by the passage of air through the parts above the trachea, none was heard by the ear applied to the chest.

Similar experiments with the glass tube in cases of pleurisy and pneumonia have given similar results.

As the mode of formation of this sound has been much discussed, it may be interesting to consider the various theories advanced to explain it.

Laennec described as bronchial respiration that originating in the larynx, trachea, and larger bronchi, and even in the smaller bronchi, although he supposed that the sound in the latter was covered up by the usual respiratory murmur. He believed, however, that when the pulmonary tissue was in any way condensed and the respiratory murmur had considerably diminished or disappeared, the bronchial respiration was heard not merely in the large passages but also in the smaller ones. This he supposed was owing to the compression or infiltration of the lung, which prevented the entrance of air into the vesicles, and that therefore bronchial respiration only was produced and was more easily detected as the pulmonary tissue had become a better conductor.

This view Skoda very properly rejected, as it was obvious that a lung would draw less and less air through the bronchi as it became solidified, and finally would become incapable of inhaling or expelling air. He ¹ consequently attributed the bronchial respiration to consonance, making the more rigid bronchi reflect and increase the respiratory sound originating in the larynx, trachea, and bronchi. As a proof of this he called attention to the fact that "if auscultation were repeated frequently in hepatization of the lung, resonance of the voice was found at one time increased and again very slight, without any change in the amount of infiltration of the lung as far as could be ascertained by other signs, particularly percussion." This disappearance and reappearance of the increased vocal resonance, while the condition of the lung remained the same, he thought required some other explanation than an increase through the greater conducting power of the indurated lung.

Moreover, bronchophony might disappear and return after a full inspiration and still more after cough. It was also very likely to be absent if the patient had not coughed or expectorated for some time.

This, he maintained, showed that the voice was heard through the hepatized portion, when the bronchi which permeated it were not obliterated by fluid, and contained air; and that, on the contrary, it was no longer heard when the bronchi were obstructed by mucus.

He then said that if the increased resonance of voice were owing to the greater conducting power of the hepatized portion of lung, it would make no difference whether the bronchi contained air or fluid.

He also contended that if conduction of sound were the only element,

¹ Abhandlung über Perkussion und Auskultation. Wien, 1864.

the vocal resonance would increase with the amount of fluid in effusion in the pleural cavity, whereas the resonance became less as the fluid became more abundant.

Oppolzer also regarded bronchial respiration as the result of consonance,¹ for the production of which the following conditions were considered necessary:—

(1.) That the air should be nearly or quite expelled from the affected alveoli.

(2.) That the hepatized part should be of such an extent that it should contain at least one bronchus of a certain size.

(3.) That this bronchus should be in free communication with the larynx.

These conditions being present, the respiratory murmur produced in the larynx, trachea, and large bronchi resounded in the bronchus inclosed in the hepatized lung.

Schweigger² explains the phenomena as follows: The larger the number of air-passages which are free from mucus and filled with air, the larger is the surface which may vibrate and communicate its vibrations to the tissue with which it is in contact.

This Skoda accepts by saying that “Schweigger has said nothing more than I assert.”

Gerhardt,³ after describing the meaning of the sound heard over the larynx, trachea, or the seventh cervical vertebra, adds, “This is called tubular laryngeal tracheal or, as it in all probability has its origin in the same way in the bronchi, bronchial respiration. Such is also heard in auscultation of the cavities of the throat and nose.”

But he states on page 166 that the *primary* murmur is caused in inspiration by the passage of the current of air through the posterior nares into the pharynx, and through the glottis into the cavity of the larynx and trachea.

The *respiratory* murmur is caused by the passage of the air from the narrow glottis into the larynx above, and also where the narrower branches of the bronchial tubes open into the wider.

Flint⁴ considers that bronchial respiration is “produced within the trachea, the primary bronchi, and probably also within the subdivisions of the latter.”

Guttman⁵ defines bronchial respiration as a collective designation for the respiratory murmur heard *physiologically* in the larynx and trachea, *pathologically* in all the larger bronchi. He considers that it arises in the larynx and is caused by the passage of the current of air through the rima glottidis during expiration and inspiration.

¹ Oppolzer's Vorlesungen. Erlangen, 1870.

² Über die sog. consonirenden Geräusche. Virch. Arch., vol. ii., page 258.

³ Lehrbuch der Auscultation und Percussion. Tübingen, 1871.

⁴ Respiratory Organs, page 172.

⁵ Lehrbuch der klinischen Untersuchungs Methoden. Berlin, 1874, page 139.

These authors probably represent very fairly the views entertained in regard to the origin of bronchial respiration. All assert that it may originate in the bronchi, with the exception of Guttman, who limits it too closely to the larynx. Careful observation shows that it may arise in the nose, lips, or throat, depending both upon the movements of these parts and the rapidity with which the current of air passes over them. When a similar sound has its source below the larynx it implies some abnormal condition of the parts by which vibrations are excited in the current of air, — such conditions, perhaps, as might be found in advanced catarrhal pneumonia, when the lung has been more or less extensively destroyed, — but the requisites for its *production* are *not* found in simple consolidation or in effusions into the pleural cavity.

We must, however, admit that the sounds formed in or above the rima glottidis may be modified by the character of the passages or cavities which they enter, or that of the adjacent tissues. Dr. Langmaid, at the meeting where this matter was discussed, alluded to the fact that the bones of the head vibrate greatly, and stated that advantage was taken of this to get harmonic notes in which the trachea and bronchi took but little if any part. This seems to be only an example in the *head* of what is generally spoken of as *consonance in the chest*. For the production of the latter sound it is necessary that some change should take place in the pulmonary tissue, which increases its consistency either through disease or compression, so that the bronchi connected with it may respond more readily to and reinforce the waves of sound transmitted from the larynx or parts above.

The object of this paper is to show *where* bronchial respiration *originates*. If the views advanced be correct, the question which has so long agitated the medical world, in regard to the relative claims of conduction and consonance, seems to be simplified. There is certainly no doubt that the sound traverses a certain interval to reach the ear applied to the parietes, and that it is modified in various ways by the media through which it passes, or that, in other words, these media are also made to vibrate in connection with the primary sound. *We have therefore both conduction and consonance*. The sole task is to determine the relative agency of each.

DIPHTHERIA AND CROUP: THE ANNUAL REPORT FOR THE SUFFOLK DISTRICT MEDICAL SOCIETY.¹

BY T. B. CURTIS, M. D., REPORTER.

HAVING been appointed to present to the Massachusetts Medical Society the annual report of the Suffolk District branch upon *subjects of local interest connected with the practice of medicine*, I thought that the

¹ Read before the Massachusetts Medical Society, June 13, 1877.

epidemic of diphtheria now in progress would furnish the most acceptable subject for our consideration. The very great mortality already occasioned by this intractable and justly dreaded disease, and the great number of cases which are probably yet to be encountered before the present outbreak shall have run its entire course, seemed to render it without any doubt the most important event of the year to all the members of the medical profession here present. As it is manifestly impossible as well as undesirable that I should attempt on such an occasion to treat the vast topic of diphtheria in all its bearings, my remarks will be limited to certain aspects of this interesting subject. I propose, then, to consider the views which have obtained and which now prevail among the medical profession of this community regarding the significance which should be attached to the word *diphtheria*, and to discuss the relations existing between this disease and so-called *croup*.

What do we understand by diphtheria? The word itself is of comparatively recent origin, having been first devised by Bretonneau in 1826. Derived from the Greek *διφθέρα*, meaning *membrane*, it was applied by its originator to a *specific infectious* disease, of which the main characteristic consists in the formation of *false membranes* upon certain mucous membranes and abraded surfaces, and which is accompanied by more or less marked general symptoms of *asthenia*, supposed to be due to a constitutional infection. The new word, and what is of far greater moment, the *new idea* of a specific morbid entity, embracing all the forms and varieties of pseudo-membranous disease, conceived by Bretonneau, and fully developed by his illustrious pupil, Trousseau, have been as yet but slowly and incompletely assimilated by the medical profession of this country and of Great Britain. The so-called diphtheria did not make its appearance at all in the registration of Massachusetts until 1858, when eighteen deaths were returned under the new designation. In 1859 Dr. B. E. Cotting published a paper on Diphtheritis, or the Membranous Disease commonly called Croup, in which the views of Bretonneau and Trousseau were promulgated, and in which the unity of the various forms of pseudo-membranous disease was clearly set forth and strongly insisted upon. In that year the deaths attributed to diphtheria in the State were thirty-two. In 1860 there were two hundred and thirty-eight deaths so recorded, and they continued to increase rapidly in number till 1863, when the fatal cases reached one thousand four hundred and twenty.

Notwithstanding the recent introduction of this new designation into our mortality records, it is impossible, as Dr. Cotting showed, to recognize in diphtheria a new disease. Its great antiquity was asserted by Bretonneau and by Trousseau; and Dr. Squire, in his article on diphtheria in Reynolds's System of Medicine, considers that it is demonstrated to have existed in the earliest ages of medical history. The disease can-

not even be regarded as new to this part of the world, for it was most unmistakably described in its various forms as long ago as 1771, by our distinguished countryman, Samuel Bard, the precursor of Bretonneau, as he is styled in the recent treatise on diphtheria of Sanné. Where, then, are we to look for earlier records of the disease now called diphtheria? If we examine the registration reports of Massachusetts, we find recorded, year after year, under the designation "croup," a varying proportion of fatal cases, constituting on an average from 2.5 to 3 per cent. of all deaths in the State. Upon the appearance in our mortality records of the so-considered new disease, diphtheria, the proportion of deaths attributed to croup began to diminish, so that from 1865 to 1874 deaths by this disease had sunk from nearly 3 per cent. to but 1.6 per cent. of all deaths. If, however, to these so-called cases of croup we add the deaths returned under the new name of diphtheria, we thereby restore the full proportion of our yearly mortality formerly attributed to croup alone, namely, 2.5 per cent. of all deaths. With regard to the comparative frequency of the use of the two designations now employed, we find considerable yearly variations, the cases returned as diphtheria growing, however, yearly more numerous in comparison with cases returned under the obsolescent name of croup. During the present epidemic the predominance of diphtheria in our returns has been greater than ever before, the deaths attributed to this disease in 1876 having been over four times as numerous as those imputed to croup.

It is evident from these facts that the *croup* of our earlier registration comprised the *diphtheria* of to-day, and that we have now two names under which certain fatal cases are recorded where we formerly had but one. It appears, moreover, that the new designation is gradually supplanting the older one, the diagnosis croup becoming yearly more unfrequent among us as compared with the diagnosis diphtheria. The question now arises: What does this change in our nomenclature signify? Is it merely the partial substitution of one word for another, the thing designated and our conception of it remaining unchanged? Or has the thing designated, namely, the disease to which the words are applied, undergone a modification, a "change of type," so that we now have to do with two distinct morbid entities instead of one? Or, the diseased states remaining what they were, have our ideas regarding their nature partly changed, so that diverse opinions now prevail, requiring different words for their expression?

There can be, I believe, but little doubt that the last supposition is correct. The disease is in itself unchanged, but opinions differ with regard to its nature. Some, on the one hand, adopting the views advocated by Dr. Cotting in 1859, hold that all cases of pseudo-membranous throat disease are similar in nature, being dependent upon a common specific infection; and that the marked diversity of the symptoms re-

sults partly from the varying localizations of the false membrane and partly from the variable intensity of the general symptoms of blood-poisoning. By these the word "croup" is applied to the pseudo-membranous invasion of the larynx, which constitutes one of the most frequent and important localizations of the morbid process. Croup, then, according to this view, is never a disease, but only an affection constituting one of the most common symptoms of the constitutional disease called "diphtheria." By those who are of this way of thinking, the word croup is never used in diagnosis, and all cases of pseudo-membranous disease, including primary membranous laryngitis, are registered under the name of diphtheria. Other authors and practitioners, however, while recognizing the specific disease just mentioned, believe in the existence of yet another pseudo-membranous laryngitis, distinct in its nature, and clinically distinguishable from that due to the laryngeal localization of the diphtheritic process. These, therefore, now recognize two forms of membranous disease, one the result of a specific constitutional infectious disease, which they call diphtheria; the other a simple inflammatory, idiopathic, local disease, which is characterized by the formation upon the respiratory mucous membrane of a false membrane and by the suffocative effects thereby mechanically produced. This disease they call croup.

Thus we see that formerly all the various forms of membranous disease were regarded as examples of a purely local and inflammatory disease which was called croup; that now Bretonneau's conception of a specific infectious constitutional disease governing the various pseudo-membranous localizations has so far gained ground as to have entirely supplanted in some minds the ideas formerly prevailing; but that a small and gradually diminishing proportion of practitioners still cling to the old denomination, with the idea thereunto attaching of a local unspecific disease, and refuse to recognize as diphtheria certain exceptional cases of localized membranous disease unattended by obvious general symptoms of diphtheritic dyscrasia. Some of these, admitting the gradual diminution of the frequency of croup, assert that the change is to be accounted for upon the supposition that the simple membranous disease of the past is gradually disappearing before a new type of recent development. The masterly descriptions of disease left to us by Bard suffice, however, to negative any such hypothesis. Moreover, there can be no doubt that disease is less liable to become modified than opinion, and the change in our records is sufficiently as well as more plausibly accounted for by the widespread and growing acceptance of the specific morbid entity conceived by Bretonneau.

Upon what evidence, now, does the dualistic view of an idiopathic croup or pseudo-membranous laryngitis, distinct from laryngeal diphtheria, rest, and what are the characters by which this form of disease

is to be distinguished? Croup, it is said, occurs sporadically, and is not contagious or infectious, is not what is popularly called "catching;" it prevails almost exclusively in infancy or in early childhood, while diphtheria is seen chiefly at later ages, or in adults; it is sthenic and inflammatory in character, and is unattended by the symptoms of septicæmia observed in diphtheria; it is rarely if ever accompanied by albuminuria or by swelling of the cervical glands, and is not followed by paralytic sequelæ, as is frequently the case with diphtheria; and finally, the false membrane of croup, although anatomically identical with that of diphtheria, differs from the latter in its distribution, being limited to the respiratory mucous membrane.

Now in answer to these alleged reasons for distinguishing the so-called "croup" from diphtheritic laryngitis, the following objections must be made. In the first place with regard to non-transmissibility as a feature of croup, no demonstration of this alleged fact has ever been attempted. If in many cases of that form of diphtheria which is liable to be called *croup*, the tendency of the disease to spread has not been observed, this circumstance is sufficiently accounted for by the difficulty of recognizing transmission in diseases which are not intensely contagious, and also by the fact that this localized form, at all times exceptional, is chiefly observed at times when the epidemic influence of diphtheria is absent or but slightly marked. Moreover, croup has been described as occasionally taking on an epidemic character by some of the authorities (for example, Steiner), who still differentiate it from diphtheria. Finally, cases are on record in which croup has apparently been caught from diphtheria, while others exist in which diphtheria has been caught from croup. J. Lewis Smith, who describes a non-diphtheritic pseudo-membranous laryngitis, of which he says the diagnosis is ordinarily easy, relates a case¹ of croup in a child which proved fatal. "Two or three days after the death of the child, the two young women who nursed him were affected with severe diphtheritic pharyngitis, with the characteristic pseudo-membrane." A still more striking example of the infectious, diphtheritic character of croup is given by Dr. B. Edson (of Brooklyn), who described recently² a localized epidemic of diphtheria which took place in a home for destitute children. Twelve cases occurred in all. "Eight of the cases," says Dr. Edson, "were beyond question cases of diphtheria. The remaining four, had they occurred sporadically, would unquestionably have been considered typical cases of true croup, being clearly laryngeal throughout their entire history. Occurring, however, as they did in close succession, — due beyond question to the same local cause, — it was deemed warrantable, if not absolutely correct, to consider them all cases of diphtheria."

¹ *Diseases of Infancy and Childhood*, Philadelphia, 1876, page 239.

² *New York Medical Record*, May 5, 1877.

The second argument in favor of an idiopathic croup is based upon the difference of the ages at which croup and diphtheria chiefly prevail. It is, however, easy to see why diphtheria should appear under the form attributed to croup more frequently in infancy than at later ages. In the first place, the insidious first approaches of diphtheria are liable to pass unnoticed in infants and young children, and should attention by chance be directed to the fauces in the early stage of the disease, before the invasion of the larynx has taken place, the insubordination of the little patient is often such as to render a local inspection negative in its results. On the other hand, as was pointed out by Trousseau, the conformation of the larynx is such in the first years of life as greatly to facilitate obstruction and to favor the rapid development of asphyxic symptoms. At later ages, on the other hand, the larynx is less easily obstructed and the tendency to suffocation is less marked, so that in adults the symptoms characteristic of croup are hardly ever observed; asphyxia is observed in them only after a prolonged duration of the disease, when unusually large accumulations of false membrane have taken place throughout the larger air-passages, and at a time when a very pronounced condition of constitutional infection has had time to supervene. Hence the almost invariable failure of tracheotomy in the diphtheria of adult patients. It seems quite evident, then, that the difference of the symptoms observed in infancy and at later ages should be attributed not to a difference residing in the disease but to a difference in the subjects.

The relatively sthenic character attributed to croup is accounted for by the selection of a particular type of diphtheritic disease to which this name is given. The cases chosen to represent croup are those in which the suffocative symptoms of purely local and mechanical origin, due to the laryngeal false membrane, predominate. In this type of diphtheritic disease the constitutional symptoms hardly have time to be appreciably developed or may be entirely absent. Such cases are, however, but examples of one extreme type of the disease, the opposite extreme type comprising cases in which the general symptoms by their early and excessive development overshadow or forestall the local manifestations. Between these extreme and widely differing varieties an uninterrupted series of intermediate forms is observable, in which the local and general symptoms vary respectively in intensity. Some of the distinctive features attributed to croup have another source; there are good reasons for the suspicion that a considerable proportion of cases of "croup" terminating in recovery are in reality cases of spasmodic laryngitis or "false croup." Hence the sporadic appearance, the sthenic character, the absence of sequelæ, and the gratifying efficacy of treatment by emesis, attributed to croup by some authors.

As for the alleged absence in croup of certain phenomena supposed

to be characteristic of diphtheria, namely, albuminuria, enlargement of the cervical glands, and secondary paralyses, it is by no means an established fact that these phenomena do not occur in that form of pseudo-membranous disease by some called croup. Albuminuria and adenitis are admitted to be not unfrequently observed in croup by some of those who contest the diphtheritic nature of this form of membranous disease (for example, Steiner). Moreover, the albuminuria and the paralytic sequelæ are so often lacking in cases of unquestionable diphtheria, and so often present in connection with other diseased states, as to have in themselves but little diagnostic or nosological significance.

The last alleged distinctive feature of croup, or pseudo-membranous laryngitis, as it is sometimes called in order to emphasize its localized character, with which we have to deal, is the restriction of the false membrane to the larynx and remainder of the mucous membrane of the larger air-passages. It is a well-known fact that in diphtheria the characteristic false membrane is occasionally absent from the fauces, or at least escapes detection. Curiously enough, however, the authors who describe a croup distinct from diphtheria almost all admit that in croup the false membrane usually occupies the fauces (tonsils, uvula, and palate) as well as the larynx. According to these authorities the pharyngeal membrane, upon which by the way they lay but little stress, is described as differing in no respect from that of diphtheria, being similar in appearance, identical in structure, and similarly attended by glandular enlargements. John Ware, in his admirable monograph on Membranous Croup, written in 1842, says that the state of the fauces was observed and noted by him in thirty-three cases, and that of these in thirty-two a false membrane was present, most frequently and sometimes only on the tonsils, sometimes on other parts, as the palate, uvula, and pharynx. "From this statement," said John Ware, "it seems probable that the appearance of a false membrane upon the tonsils or other visible part of the throat in a case of croup may be regarded as a pretty certain diagnostic sign that it is the membranous form of the disease, and its absence as a pretty certain indication that it is one of the other forms." This careful observer, then, considered the presence of a pharyngeal membrane so frequent as to be almost pathognomonic of the membranous form of disease, which he was trying to distinguish from the other and less grave forms of laryngitis, inflammatory and spasmodic. Now if this pharyngeal membrane, which in all times has been found by careful observers to precede or coexist with croup in the great majority of cases, is not diphtheritic, what is it? And if we admit its identity with the similar false membrane of diphtheria, does it not follow that the membranous croup which it accompanies must also be diphtheritic?

We see, then, that none of the alleged characteristics of croup suffice to differentiate this form of pseudo-membranous disease from diphtheria.

On the contrary, all the features of croup, as described by those very authors who refuse to acknowledge its diphtheritic nature, are clearly significant of its specificness and of its identity with diphtheria. Its specific character is shown by its occasionally taking on an epidemic course, — to say nothing of its contagiousness, admitted by some of its upholders, — by the extreme rarity of its recurrence in subjects previously affected, and perhaps also by the very considerable mortality which attends tracheotomy in this disease as compared with the results of the same operation in cases of purely mechanical obstruction of the larynx. Its identity with diphtheria is manifest when we consider the similarity of their ætiological conditions, the coincidence of their epidemic outbreaks, and the fact that both forms are liable to occur as sequelæ after certain fevers, the identity of structure and distribution of the characteristic false membrane, and the similarity of certain accessory symptoms, such as albuminuria and the swelling of the submaxillary glands. Finally, such trifling differential characters as have ingeniously been attributed to croup in the effort to distinguish it from the diphtheritic form of laryngitis are clearly dependent upon differences of degree and not of kind, the extreme form disassociated from diphtheria under the name of croup being uninterruptedly connected with the most manifestly specific type of diphtheria by a gradational series of intermediate forms.

Such is the evidence. Inasmuch as the burden of proof must be held to lie with those who assert the existence of two distinct membranous diseases where formerly but one, however called, existed, and where now but one is recognized by those who have most contributed to our knowledge of the disease, I think our decision must be that the upholders of croup as an idiopathic disease have failed to establish their case. Consequently, and in accordance with the canon of Newtonian logic which prescribes that causes should not be multiplied without necessity, it is desirable that we should all admit the unity and specific nature of the pseudo-membranous disease, by whatever name it be called.

The importance of correct notions upon the relations of croup to diphtheria, involving the entire and unanimous acceptance of the morbid entity established by Bretonneau and Trousseau, rests partly upon the danger of regarding and treating a certain proportion of diphtheritic cases as if they were examples of a simple, non-transmissible disease, and partly upon the diagnostic confusion likely to arise between spasmodic and diphtheritic croup. This confusion, to clear up which John Ware wrote his celebrated paper, and which has been and still is so frequent in practice, however at variance with established theories, is liable to be perpetuated so long as the erroneous conception of an unspecific, sthenic, localized membranous croup remains to bridge over the abyss which should separate and distinguish the two diseases.

The dangers likely to attend the management of a case of croup treated upon the mistaken assumption of a non-diphtheritic nature are twofold: in the first place isolation is likely to be neglected, so that the disease will be allowed to spread through families and among neighbors. Secondly, practitioners who look upon the disease as simply inflammatory and sthenic in character are likely to overlook or underestimate the paramount necessity of avoiding all depleting, debilitating, distressing, or even fatiguing treatment, and of insisting from the beginning upon tonic and restorative measures relating to nutrition, stimulation, and rest.

Fully as important to avoid as the dangers just hinted at is the confusion of two diseases so dissimilar in prognosis and treatment as spasmodic laryngitis and diphtheritic or membranous croup: the one invariably of short duration and of happy termination, the other attended by an excessive mortality; the one admitting of sure and rapid relief by therapeutical measures, the other almost entirely refractory to all modes of treatment; their only point of resemblance lying in the difficulty of breathing, which constitutes almost the only symptom of the one and the most striking symptom of the other. For this confusion, certain of our text-books are partly responsible, inasmuch as they disseminate and perpetuate the erroneous notion of a simple, inflammatory, localized membranous croup, unattended by pharyngeal membranes or by any of the other characteristics of diphtheria. Authority is thus lent to the maintenance of a type of disease having no foundation in reality, and corresponding only to inadequately observed cases of diphtheritic croup or to cases of spasmodic laryngitis, magnified by an ill-regulated imagination into cases of membranous croup. The diagnosis "croup," as too commonly made, is applied to two distinct sets of cases: one set, in which a fatal termination by asphyxia is almost the rule, is composed of cases of primary diphtheritic croup; the other set comprises cases in which no false membrane is seen, and which terminate in a speedy recovery, to the delight of the parents and to the satisfaction and glory of the medical attendant. It is upon the degree to which the latter class of cases predominate among a physician's cases of "croup" that his success in coping with that imaginary form of disease depends. The more scrupulously he eliminates from his records of croup such cases as terminate favorably unattended by any visible false membrane, the more unsuccessful will his treatment of the disease appear. "Membranous croup," said John Ware, "unquestionably does sometimes come to a favorable termination; but recovery is comparatively so rare, it forms so much the exception, that admitting the distinctive character of the disease it is difficult to conceive that the treatment has anything to do with the recovery." "Thus," says Dr. Jacobi, "very little reliance can be placed on the judgment and the

diagnostic powers of such as save a large majority of their cases or who rely on infallible pet remedies." These remarks apply not only to croup but also to a considerable proportion of cases diagnosticated and reported under the designation of diphtheria. There is no doubt but that much of the successful treatment of diphtheria of which we read such extraordinary statements in our journals must be accounted for by the diagnostic confusion of pharyngeal diphtheria with comparatively harmless forms of sore throat, such as tonsillitis, faucial catarrh, herpetic angina, mild scarlatinal sore throat, etc.

With a view, then, to the establishment of more logical and more clearly defined nosological conceptions, and in furtherance of the acquisition of unequivocal testimony, relating to the management of the epidemic disease with which we are coping, I would respectfully submit that it is expedient for us to recognize the specific unity of the pseudo-membranous disease in all its forms, and to discard from our nosology and registration the designation "croup."

RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY E. S. WOOD, M. D.

URINARY CHEMISTRY.

Albuminuria.—M. Letulle¹ reports two cases of albuminuria occurring during the progress of lymphangitis. In both cases the amount of the albumen increased while the temperature remained high (40.3° and 40.8° C.), and gradually diminished with the lowering of the temperature and recovery from the lymphangitis. In both cases granular casts were found in the sediment, but these disappeared with the albumen.

Weinberg² found albuminuria in thirty-three per cent. of his cases of delirium tremens; he noticed that the albuminuria was exactly coincident with the delirium, and also that the amount of albumen corresponded with the intensity of the delirium,—the more severe the delirium the greater the amount of albumen, and *vice versa*. In no case did the urine contain any abnormal sediment.

J. Stolnikow³ gives a ready method for estimating the amount of albumen in the urine clinically. It is as follows: Dilute the urine with distilled water, until a little of the mixture poured into a test-glass just gives a white zone of coagulated albumen when treated with concentrated nitric acid. The nitric acid should be added to the diluted urine as in performing Heller's test, and the test-glass should be al-

¹ Centralblatt für die medicinischen Wissenschaften, 1877, No. 12, page 216, from Gazette des Hôpitaux, 1876, Nos. 130 and 133.

² Centralblatt für die medicinischen Wissenschaften, 1877, No. 6, page 112, from Berliner klinische Wochenschrift, 1876, No. 32.

³ Centralblatt für die medicinischen Wissenschaften, 1876, No. 45, page 811.

lowed to stand forty seconds, at the end of which time the zone should be visible. The calculation is then made by dividing the number of volumes of water required for this dilution *plus* the volume of the urine by two hundred and fifty, which will give the percentage of albumen in the urine. This relation was determined by a large number of exact quantitative analyses.

C. Méhu¹ denies the existence of mucus, properly so called, in either normal or pathological urine. The sediment, which is always visible even in healthy urine, and which consists of a variety of morphological elements, such as epithelial cells and *débris*, leucocytes, etc., is improperly termed mucus, since it never contains that albuminous substance characteristic of mucus, namely, mucin. Mucin has well-defined properties, and is easy to distinguish from that variety of albumen which does exist in the urine. It is soluble in water, not precipitated by heat alone, precipitated by both acetic and the mineral acids, the precipitate being insoluble in an excess of the acetic but soluble in an excess of the mineral acids, and precipitated by alcohol. The variety of albumen found in the urine differs from mucin principally by its insolubility in an excess of mineral acids. Méhu considers that this substance consists chiefly of pyin, which is found together with serum albumen in the fluid of pus, since, whenever leucocytes can be found in the urine by microscopic examination, acetic acid will render the filtered urine turbid, not always immediately but usually within fifteen minutes. He states also that epithelial cells from the bladder or vagina, if allowed to remain long in the urine, especially when the latter is neutral or alkaline, undergo partial decomposition, one or more of the products of which impart to the filtered urine the property of being coagulable by acetic acid.

Sugar. — F. W. Pavy,² from numerous analyses of normal urine, finds that the amount of sugar normally present in urine is about 0.565 grains in one pint (about 0.05 gramme in one liter). A large amount of urine (two or three liters) was always required for analysis. It was first precipitated with neutral acetate of lead until no further precipitate was formed. This was collected on a filter paper, washed, suspended in water, and decomposed by sulphuretted hydrogen. The filtrate from the sulphide of lead thus formed, after heating to expel the excess of sulphuretted hydrogen, always gave a precipitate of cupreous oxide when tested by Trommer's test, reacted to the bismuth test, and to the fermentation test when the fluid was previously neutralized. Pavy considers, therefore, that sugar is a constituent of normal urine.

E. Külz³ mentions a specimen of diabetic urine, which, when undiluted, gave no precipitate of cupreous oxide when Trommer's test was

¹ Journal de Pharmacie et de Chimie, February, 1877, page 106.

² Guy's Hospital Reports, 1876, page 413.

³ Berliner klinische Wochenschrift, October 25, 1875, page 584.

performed or when the urine was boiled with Fehling's solution, but which gave an abundant precipitate if two drops of the urine were diluted with ten cub. cent. of water before performing the above tests. The urine examined with the polariscope showed the presence of 4.9 to 5.8 per cent. of sugar. Külz explains the precipitation after dilution by considering that those substances which prevent the precipitation of cupreous oxide in urine are rendered inert by diluting with water to a sufficient extent, and he prefers diluting the urine in such cases to the method recommended by Maly, which is to filter the urine through animal charcoal, washing the latter, and testing the wash water for sugar.

Biltz¹ states that the ordinary test for grape sugar in urine may be made much more delicate by adding to a saturated solution of common salt in a test-tube a little of the alkaline copper solution, just enough to impart to it a pale blue tint; boil the mixture, and carefully pour the urine to be tested down the side of the test-tube, so as to form a separate layer of fluid. The greater density of the salt solution prevents the two fluids from mixing readily. At the junction of the urine and salt solution will be seen a yellow zone of cupreous oxide, very sharply defined if sugar is present in the urine.

Urea. — P. Brouardel² reports experiments made with reference to the effect of diseases of the liver upon the formation of urea. He finds that in animals poisoned with phosphorus oil the secretion of urea diminished in proportion to the degeneration of the hepatic cells. In severe cases of icterus which, however, terminated in recovery, the symptoms and size of the liver varied in proportion to the amount of urine and urea; as soon as the symptoms began to improve and the size of the liver to increase, the amount of urine and urea increased. In cases of icterus gravis the urea steadily diminished until it entirely disappeared. In hepatitis suppurativa, in long-continued obstruction of the bile duct by gall-stones and consequent induration of the liver, in cirrhosis and fatty degeneration of the liver, in nutmeg liver and other chronic affections, such as carcinoma and hydatids, the author always found a diminution of the urea corresponding to the disturbance of the functions of the liver cells, and an increase in the amount of urea as these disturbances were removed. In active hyperæmia of the liver the amount of urea in the urine was very much increased. In one experiment on a dog, the hyperæmia being induced artificially, the amount of urea was increased from 9 and 13.8 grammes in twenty-four hours to thirty-two grammes. During an attack of lead colic the amount of urea in the urine is diminished, and increases again to the normal after the cessation of the attack. This is considered by the author to be due to a smaller amount of blood in the liver during the attack.

¹ Fresenius' *Zeitschrift für analytische Chemie*, 1877, page 247.

² *Archives de Physiologie*, 1876, pages 372 and 551.

In estimating the amount of urea quantitatively M. Yvon¹ has made numerous experiments to determine the relative accuracy of the reagents sodic hypobromite, sodic hypochlorite, and calcic hypochlorite, and has arrived at the following conclusions: (1.) That sodic hypobromite sets free all of the nitrogen in urea at the ordinary temperature. (2.) That sodic hypochlorite sets free only about sixty-nine per cent. of the nitrogen at the ordinary temperature, and when the mixture is warmed about ninety-two per cent. (3.) That calcic hypochlorite sets free about eighty-four and one half per cent. of the nitrogen at the ordinary temperature, and if warmed more nitrogen than the urea contained is evolved, since this reagent at a high temperature attacks kreatine and other nitrogenous constituents of the urine.

Sodic hypobromite, therefore, is the only suitable reagent for estimating the urea in urine by the Knop-Hüfner method.

Calcic Oxalate in Urine.—P. Fürbringer² has endeavored to determine the influences which govern the formation of oxalic acid in the system. Nearly the total amount of urine passed in twenty-four hours was examined for calcic oxalate by Neubauer's method, which, however, was found by control experiments to give results about twenty-five per cent. too low. He found that oxalic acid (in combination with calcium) is a normal constituent of the urine, and that the amount eliminated in twenty-four hours under normal circumstances rarely exceeds twenty milligrammes. The calcic oxalate found in the sediment, even after the urine has been passed twenty-four hours, by no means represents all of the oxalic acid in the urine, a large amount frequently remaining in solution. The proper solvent of the calcic oxalate in the urine is the acid phosphate of sodium, which also gives to the urine its acid reaction, so that, as a rule, the less the acidity of the urine the larger the amount of calcic oxalate in the sediment, it having been precipitated by the neutralization of the acid phosphate. The amount of calcic oxalate in the urine is not increased by the ingestion of bicarbonate of sodium or lime-water; the former substance, on the contrary, appears to diminish it. There seems to be no constant relationship between a large amount of calcic oxalate in the urine and an interruption of the processes of oxidation, as has heretofore been considered. Ordinarily the uric acid, formed by the metamorphosis of nitrogenous substances, is oxidized to urea and oxalic acid, oxaluric acid being the product of an intermediate step in the process, and the oxalic acid thus formed is still further oxidized and converted into water and carbonic acid. If the normal process of oxidation is impaired the result may be to prevent the conversion of oxalic acid to water and carbonic acid, or to prevent the formation of oxaluric acid, in which case less

¹ Répertoire de Pharmacie et Journal de Chimie médicale réunis, August 25, 1876, page 485

² Deutsches Archiv für klinische Medecin, xviii., page 143.

oxalic acid would be formed. It depends, therefore, upon which of these two reactions fails whether we have an increased or diminished amount of calcic oxalate in the urine.

Cystinuria. — A case of cystinuria in an eighteen year old patient is reported by A. Niemann.¹ This patient frequently passed small cystin calculi, the largest of which weighed 0.24 grammé. No other member of his family had cystinuria, but one brother passed urine which contained a large excess of sulphuric acid. The urine of this patient, examined on eight different days, was normal in amount, neutral, contained a normal amount of urea, a greatly diminished amount of uric acid, which averaged only 0.007 per cent., no albumen, and deposited a sediment of cystin. The daily amount of the cystin varied from 0.42 to 0.59 grammé, and seemed to run parallel with the amount of sulphuric acid, so that with a minimum amount of sulphuric acid there was a mere trace of cystin, and *vice versa*. The mean percentage of sulphuric acid (0.1) was somewhat less than the average amount. The percentage of sulphuric acid varied from 0.058 to 0.18, and that of cystin from 0.02 to 0.06; once the amount of cystin was so small that it could not be estimated. Sometimes crystals of triple phosphate were found with those of cystin in the sediment. The great diminution of uric acid noticed in this as well as in other cases led the author to believe that cystin is produced in some way at the expense of the uric acid, probably by some decomposition product of the latter uniting with the sulphur of albumen or sulphuric acid.

Of fifty-two cases of cystinuria analyzed by the author, thirty-seven were in males, fourteen in females, and one unknown. The most frequent age was from twenty to forty in males, and from eleven to thirty in females. Of these fifty-two cases none were met with in persons over fifty years of age, yet F. A. Southam² reports one in a patient fifty-seven years of age, who had two years previous had an attack of acute nephritis. Examination of the bladder revealed the presence of a calculus one inch in length. The urine was of a pale amber color, acid, had a specific gravity of 1020, contained a trace of albumen, and deposited a sediment of cystin crystals.

Another case of cystinuria is reported³ in which cystin was found both in solution and in the sediment. The mean of ten analyses of this urine showed that the daily amount of urine was 1296 cub. cent., that of urea was 33.28 grm., of uric acid 0.5445 grm., of cystin 0.393 grm., and of sulphuric acid 2.439 grm. The amount of cystin was not increased by a purely vegetable diet.

(To be concluded.)

¹ Deutsches Archiv für klinische Medecin, xviii., page 232.

² British Medical Journal, 1876, No. 834.

³ Centralblatt für die medicinischen Wissenschaften, 1876, page 798.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

ARTHUR H. NICHOLS, M. D., SECRETARY.

MAY 8, 1877. Annual meeting. The society met in Roxbury, and was called to order at eleven A. M., the president, DR. JOHN P. MAYNARD, in the chair. Fifty-nine members present.

After the election of officers for the ensuing year, the following paper was read:—

New Treatment of Hernia. — DR. J. H. DAVENPORT described in detail the method of treatment employed with success for many years by Dr. Heaton, of Boston, designed to effect a radical cure of hernia.

He prefaced his remarks with an account of the pathology of reducible inguinal hernia, laying particular stress on the fact that its occurrence is largely due to a weakness, either hereditary or acquired, in the fibrous or tendinous structures forming the boundaries not only of the rings but of nearly the whole track of the inguinal canal. This led him (Dr. Heaton) to confine his efforts at cure to these tissues only, by strengthening or restoring which in any way to a natural condition a radical cure might be obtained.

The operations known as Gerdy's, Wutzer's, and Wood's, now almost discarded, were ineffectual principally on account of the *inflammation* excited by the plug of adjacent integument, or of the invaginated scrotal tissues, or of both, which after a variable interval, in which apparent success has been obtained, is got rid of by nature and the rupture usually recurs.

He therefore lays it down as a cardinal principle in all operations for the cure of hernia that any inflammation except of the mildest grade must be carefully avoided. These conditions, he thinks, are fulfilled by the *method of tendinous irritation*, a form of treatment he has practiced for many years and in many hundreds of cases, and of the value of which he is well convinced. It may be briefly described as consisting of a mild irritation of those portions of fibrous tissue lying directly in contact with the exterior of the neck of the hernial sac, thickening and consolidating their substance, and effecting a contraction of the openings. This contraction is due not only to the astringent used as an irritant, but also largely to the peculiar normal distribution of the bundles of fibre in the neighborhood of the abdominal rings.

The operation for radical cure was then described. The first steps taken are to return the contents of the hernia and if possible the sac itself within the abdomen.

If, as often happens, the hernial sac cannot be returned, it may remain in the canal without preventing a satisfactory result to the operation. Next, invaginate the right forefinger in the scrotum and find the external abdominal ring, and with the left forefinger pressed perpendicularly upon the integument directly over the ring force the skin with the finger directly into the ring, the spermatic cord and the sac, if in the way, being pushed aside, so that nothing may remain between the external pillar of the ring and the finger except the integument and subjacent superficial fasciæ.

Keeping the left forefinger thus, the needle of the instrument (which re-

sembles the ordinary subcutaneous syringe) is quickly introduced through the skin and superficial fascia, just passing the external pillar and entering the canal at once. The left forefinger is then removed and the beak of the instrument insinuated further on, well into the canal, care being taken to avoid the spermatic cord and the fibrous walls of the canal. To wound any of these parts endangers the success of the operation. The beak of the instrument when thus introduced is in a suitable position for the injection of the liquid irritant, about ten minims of which is introduced drop by drop. The point of the needle should be well swept about while delivering the fluid, should pass around the exterior of the sac if unreduced, and should wet all the fibrous tissues.

After the withdrawal of the needle, which should be quickly done, the previous protrusion should not be allowed to descend, nor the patient be permitted to assume even the sitting position, until a suitable bandage or other means of support has been properly applied.

The irritant consists of Thayer's Fluid Extract of *Quercus Alba*, one half an ounce; of the solid alcoholic extract of *quercus alba*, about fourteen grains. This is to be triturated with the aid of gentle heat for a long time in a mortar until the solution is as perfect as possible. It is well to add to this mixture the sulphate of morphine in the proportion of about one grain to the ounce, in order to diminish the dull aching that follows the operation. A bandage is preferable to a truss after operating, because it can be more accurately adjusted, and can be worn with comfort while lying down. There is a dull pain in the groin, following the operation, but after attaining a moderate degree of acuteness this subsides and disappears altogether in from six to twelve hours. After this there is no pain if the patient avoids exercise. No swelling appears, nor any local redness, nor any increase of temperature in the groin.

For the first week the patient is not allowed to sit up, as there is more or less tenderness during that time. During the second week moderate exercise in walking may be allowed, and after that time he can generally be allowed to return to his avocations. He usually advises his patients to wear the bandage until it is worn out, and then to discard all mechanical support.

It is by this method that he has been fortunate in obtaining a radical cure of hernia in the most difficult cases.

Dr. Davenport then gave an exhaustive explanation of the irritation set up in the part, in place of the acute inflammation which might be expected, and by what circumstances the character and products of irritation were chiefly affected. That protraction of the rings followed the operation could be proved by clinical demonstration in cases where the anatomical relation of the parts are more than usually distinct and well defined, as in patients of a spare habit of body, in whom the rings have become somewhat dilated through the neglect of proper support by the truss, but whose bodily health is so good as to keep up considerable tone of muscle and fibre.

Dr. Davenport closed his report with the remark that a book was about to be published by Dr. Heaton, containing a full account of his method as applied to the different varieties of hernia.

DR. HENRY A. MARTIN, chairman of the committee appointed to consider the expediency of demanding payment for certain certificates now required gratuitously and under penalties, submitted a report in writing, embodying a detailed plan for securing the combined action of the different district societies in aid of new and improved legislation on the subject.

Voted, That the report of this committee be accepted, and that the recommendations therein contained be adopted.

The annual address was then delivered by DR. C. C. TOWER. Subject, Sanitation. Reserved for publication.

ZIEMSEN'S CYCLOPÆDIA, VOLUME XII.¹

THE volume before us is especially interesting as showing the great advance of recent years in the study of the pathology of cerebral disease. How much of the physiology upon which the pathology is in part based may be sound, how reliable some of the symptoms by which a differential diagnosis is made may prove, and whether the improvement in treatment is not due to generally more correct principles rather than to strict reasoning are questions concerning which a great latitude of opinion is allowable. None the less the amount of research displayed by the authors of the various papers, and those they quote from, is very vast. The volume is very properly opened by a short introduction by Nothnagel on the intra-cranial circulation, a clear, concise summary of our present knowledge. The first paper is also by Nothnagel, and treats of anæmia, hyperæmia, hæmorrhage, thrombosis, and embolism of the brain. The author shows an intimate knowledge of recent studies on the anatomy of the blood-vessels and on the physiology of the brain. He makes excellent use of his anatomical knowledge, showing the relation of the distribution of the arteries and veins to the cause and the consequences of various lesions or diseases. The paper is a very interesting one. Obernier comes next with a paper on tumors of the brain and membranes. The interest of this subject is confined almost wholly to diagnosis, as the treatment, except in the case of syphilis, can be little more than palliative. The diagnosis is very unsatisfactory, not only as to the nature of a lesion or tumor, but as to its situation. We are glad to find that the author is very careful about accepting as conclusive in a physiological sense, or as applicable to man, the investigations in localization by Fritsch, Hitzig, and others. He considers the ophthalmoscope of the very first importance as a means of diagnosing an intra-cranial tumor. He gives also, in opposed columns, certain points of diagnosis between cerebral tumors and apoplexy, softening and abscess respectively, points which we fear are for the most part of little practical value. Heubner gives an interesting account of the various manifestations of syphilis in the central nervous system. In treatment he is a strong advocate of mercury, which he would administer by inunction, lest if given internally salivation should interrupt the treatment. We do not imagine that many American physicians will agree

¹ *Cyclopædia of the Practice of Medicine*. Edited by DR. H. v. ZIEMSEN. Vol. XII Diseases of the Brain and its Membranes. American Edition. New York: William Wood & Co. 1877.

with him in recommending also, when the patient is strong enough, a low diet, and even the "hunger cure." When iodide of potash is indicated he advises large doses, and very properly condemns small and irregular ones. About half the book is filled by Huguenin's article on inflammation of the brain and its membranes. Many, we think, will agree with us in regarding the discussion of the several forms of meningitis, their symptoms, pathology, and aetiology one of the most interesting features of this volume. The section on abscess of the brain concludes with some pages concerning treatment, which we think might as well have been omitted, as the question is a surgical one. In fact, Huguenin states that he has no personal experience, and confines himself pretty closely to quoting surgical authorities. We are rather at a loss to decide whether or not he is sarcastic when, in treating of the use of mercury in traumatic meningitis and encephalitis, as recommended by the "renowned Stromeyer," he writes: "The action sought is the commencement of salivation. An essential obstacle to the success of this action is that the patient very frequently dies before it can be obtained." Hitzig's paper on hypertrophy and atrophy of the brain would be called scientifically curious rather than practical, were it not that he introduces an excellent account of dementia paralytica under the latter heading, on the ground that in this form of disease an atrophy of the cerebellum is often present. This part of his paper will, we think, be found generally interesting.

THE HAND-BOOK FOR HOSPITAL VISITORS.¹

THIS excellent little work is printed for the benefit of committees appointed to visit the hospitals of New York city and State. "Women visitors, chiefly, are addressed; for in many domestic details, matters of cleanliness and order and the tone of the discipline to be maintained, matters of nursing, diet, and laundry work, the employments and the general condition of the inmates of an institution, women make the best inspectors." We are ready to admit that there is much truth in this statement, but it might have been as well to have added by way of a caution that women are more inclined than men to aim at too much, especially in matters of discipline. We strongly question, for instance, the wisdom of the law that "the matron should not fail to look into every attendant's dormitory, under the beds, behind the doors, and into the closets at least once a day, and occasionally at other and unexpected times" (page 72). The book treats of construction, ventilation, disinfection, dressing of patients, discipline, and many things which, though apparently trivial, go far towards securing the comfort of the patients. The author, if she — for it evidently is a woman — has not had large experience, has at least studied the subject to good purpose, and we can commend the book not only to visitors but to superintendents and physicians.

¹ No. 13. *State Charities' Aid Association*. New York: G. P. Putnam's Sons. 1877.

THIN'S HISTOLOGY.¹

THE work before us is a valuable addition to the literature of practical histology. The author states in his preface that it is not meant to supersede any of its predecessors. The book is chiefly devoted to methods of preparation, but as the author's views on some important subjects are quite different from those generally received, he necessarily now and then runs into histology proper. Dr. Thin has clearly rendered himself master of the literature of histology to an unusual degree, and the number of references to the works of others is a most useful feature of the book. Some of Dr. Thin's methods are quite original and, we have no doubt, excellent, but we think that he errs in overtreating his tissues. It does not follow that because certain reagents will convert a given tissue into certain elements, this tissue was formed or consists of an aggregation of these elements. Too little attention is given to the study of living tissues, by which we think more is to be learned than our author admits. As a guide for a beginner we should not term this work as good as either Rutherford's or Schaefer's, but it is excellent for one who has made some progress.

DAY ON HEADACHES.²

THOUGH there is much in this book that is inaccurate and little that is new, it is by no means without merit and value. It is well written, and gives a very good account of some of the forms of headache. The author has made a mistake in dividing headaches into so many classes. If the proximate cause of a headache be, for instance, congestion of the brain, we know we must remove the congestion to effect a cure, and of course the treatment selected will depend on the cause of the congestion; but we do not see the necessity of classifying the headaches according to the nature of the first cause any more than we should place the headache following a blow with a fist in a different category from that following a blow with a stick. If the forms of this disease, or rather of this symptom, were reduced from sixteen to about half a dozen, the book would be much clearer; but as it is it is well worth reading. The remarks on treatment are very sensible.

SOCIETY WORK.

THE past month has been an active one in medical circles. It embraces the period of the year set apart by many of our medical societies for their annual meetings, and our pages have consequently been filled with records of the proceedings. First in order of time comes the Gynecological Society, whose second annual meeting was held in this city during the last days of May and the first of June. The attendance, though small, as must naturally be expected in a society of specialists, was nevertheless of a character to arouse considerable interest among the profession at large in this vicinity, as was shown by the attendance of a large number of physicians from Boston and the neighborhood

¹ *An Introduction to Practical Histology.* By GEORGE THIN, M. D. London: Baillière, Tindall, & Co. 1877.

² *Headaches: Their Nature, Causes, and Treatment.* By W. H. DAY, M. D., of London. Philadelphia: Lindsay and Blackiston. 1877.

at all its public sessions. It is rare that one has an opportunity to see in a limited assemblage so many distinguished men collected from widely separated sections of the country. There has been great activity in this department of medicine, and nowhere greater perhaps than in this country. Indeed, the profession has found it difficult to keep pace with the innovations which have succeeded one another rapidly. The general conservative tone of the meeting, as shown in the address of the president and in the criticism of the members, was therefore reassuring. We may add that some of the papers read were of a very high order of merit.

The meeting of our national association at Chicago followed a few days later. We have already noticed the more prominent features of this year's work in our remarks upon the president's address, which reviewed so effectually the tasks to be accomplished by the association. The attendance was large, and included the names of many of its oldest friends, who have adhered to it from its origin, through the days of doubtful prosperity to the present period of reform, and whose presence is a guarantee of earnestness of purpose and of a standard of excellence which argues well for the future. A perusal of the proceedings cannot fail to impress one with the fact that, although there were no contributions of any extraordinary degree of excellence, the general standard of the papers was good, and the association has a sphere of usefulness which could not well be occupied by any other organization. In spite of the feeling that exists in regard to Massachusetts, we are sure that the profession of this part of the country, although prone to criticise, are ready to welcome any signs of progress of the association and to rejoice in its prosperity. The association may now congratulate itself that such a spirit of criticism has existed in times past.

We have a word to say also about our own state society, whose meeting took place the following week. The number and variety of the papers reflected credit upon the committee whose duty it was to obtain them. We noticed that Dr. Bowditch advised the national association to appoint a similar committee. We also notice with satisfaction an increasing tendency to debate, indicating augmenting interest in the proceedings, a feature adding to the value of the meeting. We shall comment at some future time upon the character of the papers offered by the reporters from each district. The machinery (if we may venture to use so ominous a term) of our society is so complete and in such excellent order that it can hardly fail to accomplish a great deal of good work.

The New York State Medical Society also held its meeting last month at Albany. Our plan for procuring papers was practically adopted this year with satisfactory results, but this society labors under the manifest disadvantage of holding its meetings at Albany instead of New York. Moreover, in future the meetings are to be held in the winter. It will require considerable enthusiasm on the part of the members to offset these disadvantages.

In conclusion, we would call attention to the approaching meeting of an entirely new medical society. The American Dermatological Association will hold its first meeting at Niagara Falls in September next. That the best men have it in charge is shown by the list of officers. Dr. J. C. White, of this city, is its president, Drs. Duhring and Taylor, of Philadelphia and New York respectively, are its vice-presidents, and Dr. Bulkley, of New York, is its secretary.

MEDICAL NOTES.

— We would call attention to the recent announcement, in our advertising columns, of the Boylston Prize Committee. At the annual meeting, held June 4th, it was voted that no dissertation worthy of a prize had been offered on either of the subjects proposed for 1877. These were:—

(1.) Are Epidemics and so-called Contagious Diseases necessarily dependent upon Material Agencies, acting through the Stomach or otherwise?

(2.) Athletic Sports, Training, Violent Exercises, etc., as now practiced by Young Men; their Temporary or Permanent Influence on the Health.

The questions proposed for 1878 are:—

(1.) Antiseptic Treatment. What are its essential details? How are they best carried out in practical form?

(2.) Diphtheria. Its Causes, Diagnosis, and Treatment.

The following are those proposed for 1879:—

(1.) The Relation of Animal Contact to the Disease known as Hydrophobia.

(2.) Evidence showing that so-called "Filth Diseases" are not dependent upon "Filth."

The excellent selection of subjects shows the interest manifested by the members of the committee in their work, and their action this year, as in the past, is a guarantee that only the highest order of merit will obtain a prize.

— The directors of the Sea-Shore Home announce that the institution was to be opened to receive children suffering from the diseases incident to the summer season on the first of July. Applications for admission must be made to Dr. Brown, 97 Waltham Street, or Dr. Hastings at the Boston Dispensary.

— Professor Lister has at last decided to go to London. An additional chair of clinical surgery has been created for him at King's College, and he is to have thirty beds allotted to him in the hospital. The cordial reception he received during a recent visit to London "must have convinced him," says *The British Medical Journal*, "that the surgical profession in London are prepared to receive him in a manner due to his character and distinguished achievements, and that here he will meet with only friendly rivalry; and that, if he must expect keen and close criticism, he may rely upon generous and friendly appreciation."

— *The Lancet* for May 26, 1877, calls attention to a new form of paralytic disease described by Dr. Macgregor, of Fiji. He found the paralysis to be associated with the presence of a new species of liver parasite. There were eight cases in all, three of which were fatal. The symptoms of the disease come on rapidly, with some fever, followed by generalized imperfect paralysis, with rapid atrophy of the affected muscles, the legs and arms being mainly involved, and the face, tongue, and sphincter muscles being entirely free. The extensors are usually much more affected than the flexors, in this as in some other respects the disease bearing some resemblance to lead palsy. Death is usually due to œdema of the lungs consequent on defective action of the respiratory muscles. No other cause could be found by Dr. Macgregor than the presence in all the fatal cases of a large number of a species of fluke which filled and distended the hepatic bile ducts. The parasite is identical with that

described by Dr. M'Connell in *The Lancet* for August 21, 1875, and named by Dr. Cobbold "Diastoma sinense." All Dr. Macgregor's patients were Chinese, as were Dr. M'Connell's, and Dr. Macgregor believes the parasites are introduced by a species of snail which forms an article of their diet. He regards the paralysis as of a reflex origin. The spinal cord was found to be healthy on microscopical examination.

THE MAINE MEDICAL ASSOCIATION.

MEMBERS who have attended the meetings of the Maine Medical Association for many years declare that no session has been more successful than that which closed on Thursday noon. Everything conspired to make the gathering agreeable and useful. The attendance was large, the enthusiasm and good feeling were notable, the original papers were numerous, and the signs of progress conspicuous in every direction. The junketings, so common on such occasions, were entirely dispensed with, and nobody seemed to feel that any detriment was sustained in consequence.

A very important alteration in the method of increasing the membership was made. Hereafter candidates must apply by letter and present suitable recommendations to the board of censors a month before the annual meeting, and every member is to be notified of all such applications a fortnight before the meeting. In this way an opportunity is afforded every one to object seasonably to an undesirable addition to the roll.

As usual, a good deal of interest was shown in educational matters. Dr. T. A. Foster, the visitor to the Medical School of Maine, made a report which showed that he had not followed the example of some of his predecessors who have satisfied themselves with a perfunctory discharge of their duties. He had attended many lectures, listened to oral examinations, read examination papers, made inquiries of students, and taken every means to make a thorough and genuine inspection of the school; and, as a result of his work, he expressed the opinion that the institution is an honor to the State and deserves the hearty support of the profession. The only change in the faculty during the last year was in the chair of anatomy, — Dr. S. H. Weeks, of this city, very acceptably occupying the position so long and ably filled by Prof. Thomas Dwight. A written entrance examination was held at the beginning of the term, and resulted in the rejection of a number of candidates. Although the questions were of the most elementary character, it was evident that not a few of the applicants had to exert themselves rather painfully in the effort to solve them, rendering it more than probable that requirements such as are insisted on before admission is granted to ordinary high-schools would have considerably reduced the size of the class. Some of the college boys got hold of the list of questions, and the next number of the *Bowdoin Orient* contained the following supposed conversation, which certainly might have taken place: First Medic, after repeating a simple question in arithmetic, "Did you do that sum?" Second Medic, "Why, no, a fellow would have to understand fractions to do that." It is indeed true that some men who are studying (!) med-

icine and are admitted unchallenged to almost any medical school in the country are wretchedly deficient in the very rudiments of a preliminary education. The teachers in this State, however, are determined that such dullards shall not become pupils of theirs, preferring to have small classes of well-prepared students who will appreciate their teaching, rather than large numbers, a considerable proportion of whom are poorly qualified for their work, and are consequently a hindrance to the rapid progress of their fellows. In this respect they present a decided contrast to the managers of a prominent metropolitan college, who not only admit any male human being who pays the fees, however ignorant he may be, but actually put a premium on unfitness and incapacity by advertising all over the country that "no preliminary examination is required." The Portland School for Medical Instruction, determined to advance its standard of requirements as rapidly as it can consistently with its continued existence, has even gone so far as to announce that, after January, 1878, no person will be received who is not familiar with the elements of Latin and natural philosophy, being in this regard close on to the heels of Harvard. This school, appreciating a need which physicians, especially in country practice, often experience, has recently established a chair of dental surgery, from which will be taught the essential points in the management and treatment of the teeth. The good work done by the Portland school has induced the association to give it official recognition by ordering the annual appointment of visitors to report upon its condition and progress. The association adopted a resolution expressing the opinion that the best interests of the Medical School of Maine would be promoted by its removal to Portland as soon as suitable accommodations can be provided. This would not involve the sundering of its official relations with Bowdoin College, of which it is the medical department, and would give far greater facilities for clinical instruction than can be obtained in any town where there are no hospitals or dispensaries.

The committee to which had been assigned the duty of memorializing the legislature in behalf of a State Board of Health reported that, though much hard work was devoted to the presentation of the case, so little impression was made upon the law-makers that the majority of the committee on the judiciary, to which the bill was referred, reported that legislation was inexpedient. A minority report, however, was presented in favor of the proposed law, but the movement was quickly killed. Some of the arguments against the establishment of the board were indeed wonderful. One Solon said that it would be injurious, because, as soon as the board pointed out the hopelessly unsanitary regions the places would be depopulated; another evidently feared that the habitations of factory operatives would have to undergo too close scrutiny; very many thought it was all a move of the medical men to get their fingers into the treasury; and one horny-handed son of the soil, a capital representative of the "old codger" element, vehemently declared that the board was not needed, as the country was already so healthy that the doctors could not get a living. But we are not discouraged yet, and mean to keep at the work until an efficient law is enacted. It is clear, though, that there is a great deal of labor needed in educating the people up to a point where they can see the absolute necessity of an operative health-bill. It is probable that

the legislators fairly represent their constituents ; and, if this is so, the proper way to succeed is to convince the voters that they must send their representatives to Augusta with instructions to favor the movement.

Another committee of the association will besiege the capital next winter, its object being to effect such a change in the laws relative to malpractice that the plaintiff will be made responsible for the costs of court in case he fails to substantiate his charges. Here, as everywhere else, surgeons are continually exposed to the annoyance and expense of malicious suits, which rarely succeed to be sure, but always deplete purses which are never plethoric ; and it is high time that some steps were taken to relieve the profession from the harrassing attacks of conscienceless patients and their Dodson-and-Fogg allies, who are always eager to take the case "on spec."

But I must leave these matters of general interest at once, or there will be no room in my letter even to mention the various papers on medical topics which were presented. Dr. Hutchinson, of Portland, gave the history of a number of cases of scarlet fever treated with sulpho-carbolate of sodium, which he regards as a remedy of peculiar value in this disease. Dr. Donovan, of Lewiston, read an interesting paper on necrosis. Dr. Brickett, of Augusta, gave an abstract of his paper on Ovariectomy in Maine, according to which there have been nearly one hundred operations, with a little more than sixty per cent. of recoveries. Dr. Greene, of Portland, reported on the best methods of treatment for fractures about the elbow-joint, and exhibited a patient whose shocking deformity he had greatly relieved by tenotomy. Dr. Tewksbury, of Portland, gave a verbal report on the treatment of fibroid tumors of the uterus. Dr. Bray, of Portland, gave the history of a case of strangulated hernia, which almost miraculously recovered. Dr. Brown, of Paris, reported several curious cases of injury about the head. Dr. Gerrish, of Portland, made a second report on the use of salicylic acid by Maine physicians, and presented a paper on the sanitary condition of this city. Dr. Small, of Portland, read an essay on anæsthetics in obstetrics. Dr. Spalding, of Portland, reported on the ophthalmoscope in medicine ; Dr. Files, of Portland, on antiseptic surgery ; and Dr. Holt, of Portland, on otology. Other papers were read by title, and do not demand especial mention. The volume of transactions of this year promises to contain an unusual amount of original work, and it is hoped that, before many years, the association may be strong enough to decline to publish anything which is not strictly such in every respect.

On Wednesday evening the annual oration was pronounced by Dr. George F. French, of this city, who took Materialism for his subject. His treatment of the theme was scholarly and pleasing, and his essay was received with marked expressions of approbation.

Dr. Theodore H. Jewett, of South Berwick, formerly professor of obstetrics and diseases of women and children in the Medical School of Maine, was elected president for the ensuing year, and Dr. Charles O. Hunt, of Portland, is permanent secretary. The next meeting of the association will be held on the second Tuesday of June, 1878.

GAMMA.

PORTLAND, June 16, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 23, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	422	20.37	27.46
Philadelphia	850,856	281	17.17	22.88
Brooklyn	527,830	175	17.24	24.31
Chicago	420,000	125	15.47	20.41
Boston	363,940	106	15.14	23.39
Providence	103,000	24	12.04	18.34
Worcester	52,977	14	13.74	22.00
Lowell	53,678	12	11.62	22.21
Cambridge	51,572	13	13.11	20.54
Fall River	50,370	8	8.26	22.04
Lawrence	37,626			23.32
Lynn	34,524	12	18.07	21.37
Springfield	32,976	11	17.35	19.69
Salem	26,739	6	11.67	23.57

MESSRS. EDITORS, — Having recently read in the JOURNAL an account of two cases of knot in the umbilical cord, I will send you a description of a case I met with, June 16, 1877.

Mrs. D., aged twenty, a primipara, was delivered of a still-born child. Several days prior to the commencement of labor the amniotic fluid escaped, followed by no marked pains. Labor was short. I was called to remove the placenta, which, however, was expelled a few minutes before my arrival. Found a knot in the cord nearest the placental end. Estimated length of cord, forty inches. No appearance of decomposition in child or cord. Think the child perished during labor.

E. W. PARKER.

CHEROKEE, IOWA, June 27, 1877.

MESSRS. EDITORS, — In printing a short paper of mine on The Obstetric Bag, in the last number of your valued journal, a paragraph has been omitted which stated, in effect, that the idea of using a basin in obstetrics was suggested by some English writer several years ago.

As the article now stands I appear to claim the invention, whereas I simply recommended as a very convenient *form* of basin the kidney-shaped pus-basin of hard rubber.

By allowing this correction to appear, you will oblige,

Yours very truly,

GEORGE E. FRANCIS.

BOOKS AND PAMPHLETS RECEIVED. — Calculi found in the Bladder after the Cure of Vesico-Vaginal Fistula. By Henry F. Campbell, M. D. Augusta, Georgia. (Reprint from Vol. I. Gynæcological Transactions.)

Pneumatic Self-Replacement of the Gravid and Non-Gravid Uterus. By Henry F. Campbell, M. D. (Reprint from Vol. I. Gynæcological Transactions.)

On the Diagnosis of Urethral Stricture by Bulbous Bougies, with Illustrative Cases. By J. William White, M. D. (Reprinted from the Philadelphia Medical Times, May 26, 1877.)

History of a Case of Recurring Sarcomatous Tumor of the Orbit in a Child. Illustrated. Philadelphia: Lindsay and Blakiston. (Reprinted from the Report of the Fifth International Ophthalmological Congress.) 1877.

Report on the Management of the Insane in Great Britain. By H. B. Wilbur, M. D. Albany, 1877. Pp. 74.

Eighth Annual Report of the State Board of Health of Massachusetts. January, 1877. Pp. 498.

A Lost Art in Surgery. By A. B. Crosby, A. M., M. D. (Reprinted from the Archives of Clinical Surgery, New York, 1877.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, JULY 12, 1877. — NO. 2.

A CASE OF EXCESSIVE SALIVATION DURING TWO SUCCESSIVE PREGNANCIES; FACE PRESENTATION; FIRST POSITION; ROTATION EFFECTED BY FORCEPS; CHILD ALIVE.¹

BY W. L. RICHARDSON, M. D.,

Visiting Physician, Boston Lying-in Hospital.

FOR many of the clinical notes of the following case I am indebted to Mr. C. M. Green, of the Harvard Medical School, who had the immediate care of the case during the delivery and the subsequent convalescence.

Mrs. C., aged thirty-five years, became pregnant for the first time, in December, 1874. At about the fourth week she began to be troubled with a profuse salivation, which continued throughout her full term, and ceased with the birth of the child in the following September. The salivation was the only marked feature of the pregnancy. She was delivered, however, with forceps, although she is ignorant of the reason why they were used. The child was apparently healthy, but died at the age of three months, of erysipelas.

Towards the close of last June she became again pregnant, and before she noticed that the catamenia had ceased, probably between the second and fourth week of the pregnancy, profuse salivation again appeared. Indeed, remembering her former experience, she regarded the salivation as the first indication of her condition, and was not therefore at all surprised when the catamenia failed to appear at their usual time. The salivation became very profuse as in the first pregnancy. In other respects her health was excellent. The absence of the usual nausea and vomiting, which accompany the earlier months of pregnancy, was again as noticeable as it had been when she was carrying her first child.

I first saw the patient September 4, 1876, when she applied to the out-patient department of the Massachusetts General Hospital, to see if she could not obtain some relief from the distressing and constant salivation. Various remedies were tried, both internally and locally, but with no decided or permanent effect. Finding that all treatment

¹ Read before the Boston Obstetrical Society, April 14, 1877.

seemed ineffectual she ceased coming to the hospital, and I regarded the history of the case as closed.

At half past five o'clock, on the morning of March 29th, I was sent for by Mr. Green, of the medical school, to see a patient who had been placed under his care by the obstetrical department of the school. On arriving I found that it was the same patient who had consulted me at the hospital on account of the salivation. Mr. Green had been called to see her about nine o'clock the previous evening. Labor had begun about eight hours prior to his first visit. The os was then about the size of a silver quarter of a dollar, and the membranes were unruptured. The presentation could not be made out. The salivation was very profuse. The pains were severe and frequent, but little advance was made during the night, and as there seemed to be some unusual delay in the progress of the case I was sent for.

On reaching the house I found that the membranes had ruptured. The os was fully dilated. The presentation was that of a face in the first position. The pains were very frequent and strong, and the presenting part was crowded well down into the lower plane of the pelvic canal. The woman was in a fair condition, although showing some signs of fatigue. The pulse was about eighty.

Owing to the comparatively good condition of the mother, and realizing the fact that any interference to be of benefit must be of a serious character, I determined to wait and see if it were possible for rotation to take place with the face crowded down into the pelvis as firmly as this appeared to be. At nine o'clock there was an increase in the swelling of the presenting part, and if possible a more crowded condition of the head and face within the pelvic canal. The forehead seemed, however, to have rotated slightly towards the pubic arch. The mother seemed more fatigued, but the pulse was still about eighty and of good character. The pains were strong and frequent. At twelve o'clock no change whatever had taken place so far as the position of the child was concerned, but the mother's pulse had risen to a hundred, and she was evidently becoming greatly exhausted. The pains were still very frequent, but much less strong. The foetal heart was not heard. Before proceeding to extreme measures I determined to see if it were possible to effect a rotation by means of the forceps. The bladder was accordingly emptied and the blades were applied over the parietal bones. A steady and strong pressure was exerted, with a view to effecting a rotation of the brow towards the mother's left and backward into the hollow of the sacrum. This was, however, found to be impossible. Remembering that the brow had previously shown a slight tendency to rotate forward and towards the right, thus describing five eighths rather than three eighths of the circle, I then endeavored to accomplish a rotation in that direction. Constant pressure being brought to bear with

that end in view, for some time, the head began slowly to rotate, the brow finally swung around and back into the sacral cavity, and the chin presented under the arch of the pubes. The child, a male, weighing eight and one half pounds, was extracted without further difficulty.

An examination of the child showed that the neck was very much twisted and bent towards the right. The face was one complete ecchymosis, the eyelids and lips being greatly swollen. The respiration of the child was established only after considerable difficulty.

The patient made a good recovery. The salivation stopped within an hour after the birth of the child. The milk came on the third day.

The child improved daily in appearance. The twisting of the neck gradually disappeared, and the tenth day after delivery there was nothing abnormal to be noticed in its appearance, except a blood-shot condition of the left eye.

The case is interesting, owing to the occurrence of such marked salivation in two successive pregnancies, and also from the fact of the rotation of the face being effected under very unfavorable circumstances.

As regards the salivation it will be noticed that in both pregnancies it was the first symptom which betokened the fact of an existing pregnancy. In both it continued during the whole period of the gestation, and ceased immediately upon the birth of the child. It was unusually profuse, causing, however, but little if any constitutional disturbance. It resisted all treatment, and was accompanied, as has been observed to be the rule in such cases by German writers on the subject, by unusual freedom from the nausea and vomiting so universally observed in the earlier months of pregnancy.

As regards the delivery, it seemed evident that, owing to the condition of the mother and the probable condition of the child, any further delay in terminating the labor would have proved disastrous either to the child, or the mother, or possibly to both. The usual rotation had failed to take place, and crowded down as the face was, and confined in its position by the coccyx and descending rami of the pubic bones on the one side and the tuberosities of the ischia on the other, it seemed impossible that nature unaided could have effected the rotation. If the brow had rotated forward under the pubic arch, it would of course have been possible under very favorable circumstances for the child to have been born, the forehead and anterior fontanelle first appearing and the face subsequently sweeping the perinæum, while the cranium was pressed against the pubic arch. This, however, could have happened only where the pelvis was unusually roomy, or the child uncommonly small. On attempting rotation with the forceps it was curious to see how difficult if not impossible a rotation backward through only three eighths of a circle was, while a similar attempt made in the opposite direction, although necessitating the passage of the head through

five eighths of the circle, was accomplished with comparatively little trouble. This rotation of the forehead through the longer arc of the circle is extremely rare, and owing to its rarity this case has seemed to me worthy of being placed upon record.

REPORT FOR THE MIDDLESEX EAST DISTRICT MEDICAL SOCIETY.

F. WINSOR, M. D., REPORTER.

THIS society has held a meeting every month of the past year on some evening near full moon; always at the house of some member who volunteers to act as host and furnish a supper for hard-worked physicians, many of whom ride a number of miles to the meeting, and some of whom must come without supper at home, and cannot be held to regular attendance on meetings for medical improvement unless they can be certain to find a pleasant social meal provided there. The average attendance has been thirteen members.

In this district, as elsewhere in the State, the year has been one of less than the usual amount of disease, and the type of disease has been light, in both respects contrasting strongly with the year which preceded it. In the towns of Woburn and Stoneham scarlatina has been endemic for the last two years, but has not been of unusual severity, nor has it spread more rapidly than in ordinary epidemics.

In the absence of any district medical library, and of the means for obtaining one, the society has adopted a suggestion of its present president for making available to every member a loan or reference library consisting of all the professional and scientific books of our members, by compiling into one catalogue the lists furnished by the members, each of his own professional library. This manuscript catalogue lies on the table at each of our meetings for the benefit of any one who wishes to consult a book not in his own possession. If one of his fellows in the district has it he knows that it is at his disposal.

From various papers and reports of cases the following are selected as having especial interest for the state society, either from their presenting rare cases or from their suggesting remedial measures not often employed and of possible value to the profession.

Subcutaneous Injection of Alcohol in an Infant Ten Days Old. — A member was called, in the absence of the family physician, to an infant ten days old, which seemed to be dying from profound depression of the nervous system, with symptoms strongly pointing to narcotism. Indeed, nothing was wanting but the contracted pupil. On inquiry, it appeared that an opiate which would have been large for a child a year old had been inadvertently administered some hours before. Nothing would

rouse the little thing. Remedies by the mouth were out of the question; sinapisms and smart slapping with wet towel produced no effect. No continuous pulse could be felt. A subcutaneous injection was given of three drops of rum with six drops of warm water, with the effect of restoring, within three minutes, a continuous pulse, of markedly improving the respiration and the cutaneous circulation, and of enabling the baby to *swallow* within ten minutes, when coffee was repeatedly given by the mouth, and sinapisms again applied. In about forty minutes the symptoms of narcotism had returned to such an extent that the rum was again given subcutaneously in the same dose and with precisely the same result, excepting the longer dispelling of stupor. In two hours more the narcotized state, though not so profound as before, had so far returned as to justify, in the opinion of the family physician as well as of the member previously in attendance, a repetition of the injection. After this third dose the baby fed from the bottle, but the family physician saw occasion to give a fourth dose subcutaneously within three hours before he considered the child out of danger.

Certain Statistics selected from a Report made to the Society on Obstetrical Cases in 1875. — A committee appointed for the purpose made a report to the society, based on the obstetrical returns for the year 1875, given by twelve members of the society, who reported in the aggregate 427 births, resulting in 433 children. Twin births 6, being 1 in 71, or 1.4 per cent.

The mothers' nationality was as follows: United States 232, or 54 per cent.; Irish 131, or 33 per cent.; English 11, or 2.50 per cent.; Nova Scotia 21, or nearly 5 per cent. Other nationalities too slightly represented to be worthy of notice here.

The average duration of "pains" (in the 311 cases where this was recorded) was 10 hours, 43 minutes. In 169 American mothers, average 10 hours, 33 minutes; in 91 Irish mothers, average 10 hours, 36 minutes; in 20 Nova Scotians, average 10 hours, 28 minutes.

Of 386 cases recorded there were first births, 122; second, 95; third, 53; fourth, 39; fifth, 22; sixth, 17; seventh, 19; eighth, 10; ninth, 2; tenth, 3; eleventh, 2; twelfth, 1; fourteenth, 1.

Out of 362 cases where the hour of birth was recorded, there were born between six P. M. and six A. M., 196, scarcely more than 54 per cent.

Miscarriages occurred in 232 American mothers, in 17.2 per cent. cases; in 131 Irish mothers, in 17.5 per cent. cases.

Presentations recorded, 385, of which there were of vertex, 94.5 per cent.; and of the remaining 5.5 per cent. there were breech, 6; face to pubes, 6; footling, 3; shoulder, 2; arm, 1; vertex and cord, 1; face, 1; anterior fontanelle, 1.

Instrumental deliveries (as reported): forceps used in 17 cases.

Of 9 cases of turning by the feet, 6 were because of disproportionate size; 1 because of placenta prævia; 1 because of arm presentation; 1 reason not stated.

Children still-born, 23, or 5.3 per cent.; children dying within the year, 30; but as 11 of these were of premature birth, and 8 others had such malformations as prevented their being viable, the mortality among those fairly viable is reduced to a percentage startlingly small, namely, 2.3 per cent.

Mortality of mothers 3 in 427, or $\frac{7}{10}$ of 1 per cent., of which 1 was of renal disease after four weeks; 1 was of embolism in half an hour; 1 was of embolism on the twenty-fourth day, both the latter being after severe labors.

Mortality among twins 5 in 12, or 41+ per cent. (2 from premature birth). Of the 6 cases of twins 5 were in Irish mothers, 1 American.

One woman out of 5 labors had adherent placenta in 4.

Placenta prævia. There were 2 cases: 1 partial, 1 complete; in both cases mother and child did well.

Severe post-partum hæmorrhage, 1 case, with syncope, which recovered.

In one case labor began (as marked by gush of water and dilatation of os) four hours before a pain was felt, and a single pain brought child and placenta through the vulva, still-born, with legs extended and ankylosed at knees; the third still-born child this woman had had in succession.

Fatal Case of Concealed Femoral Hernia. — A woman, fifty-six years old, mother of five or six children, in March, 1876, struck the right groin against the sharp corner of a bedstead, causing a "smarting pain." Shortly after she noticed a swelling there as large as an English walnut, in which she sometimes had pain. Her physician was called two weeks after the accident, at which time there was severe pain in the stomach and bowels. In the right groin was a tumor as big as a small hen's egg resting on and above Poupart's ligament. Under taxis it nearly disappeared. Twenty drops of equal parts of ether and chloroform gave complete relief from pain, and she had no more trouble till November 21st (seven months later), when the same symptoms returned. The physician found the tumor in the same place and of the same size as before, and was told that it returned soon after he ceased to visit her in the spring, and that it had persisted since. He had supplied her with a truss, but she had found it uncomfortable and soon discontinued it. The pain was not referred to the tumor or to its neighborhood. The mixture of ether and chloroform soon gave complete relief to the pain and vomiting, and in forty-eight hours she resumed her household duties. In a week she had another similar attack, and in the next fortnight two more, the same remedy being in each instance

followed by relief in a few hours. For the next three months she continued well, but in the evening of Saturday (March 31, 1877), she was again attacked in the same way. It was thought that the tumor was a little larger than when last seen. Pulse and temperature were normal. The mixture of ether and chloroform now failed to relieve her, and the next morning (Sunday) she was given "ice-pills," and for nourishment iced milk and beef tea. Through the day she was more comfortable, but toward night pain and vomiting returning she received one eighth of a grain of sulphate of morphia subcutaneously, which was followed by a comfortable night. As in her previous attacks, she never referred her pain to the region of the tumor, which, moreover, was not tender, and never gave an impulse on coughing, and was unaffected by short efforts at taxis. Consequently after each examination it was decided that her suffering was probably not due to hernia. On the evening of the next day (Monday) she was found to have had a comfortable day, but pain and nausea had again become urgent. Twenty grains of chloral hydrate by the rectum gave her a fair night, but the next morning (Tuesday) vomiting returned and was fecal in character. Pulse and temperature were still normal. On this day another physician saw her in consultation. Then, as before, there was no pain in the groin, the tumor was not tender, gave no impulse when patient coughed or vomited, was unchanged by moderate taxis.

She had been for twenty years a sufferer from dyspeptic symptoms, was cachectic in appearance, and had lost two adult daughters from chronic abdominal disease, considered to be structural, which diagnosis had been verified in the case of the one examined post-mortem; and it was suspected that the mother was now affected with similar disease.

For five days more the same symptoms continued; vomiting was only occasionally fecal; moderate doses by injection of chloral or morphia gave relief for hours. She was of course gradually failing. At this time another consultation was held, and the question of an exploratory incision over the tumor again raised, but it was thought so probable that her symptoms depended on organic abdominal disease, the tumor so much resembled an enlarged inguinal gland, and she was so nearly moribund that incision was deemed scarcely justifiable. She sank gradually and died forty-eight hours later, ten days from the time of her final attack.

At the autopsy no abdominal organ showed structural disease, unless there was evidence of it in the somewhat enlarged mesenteric glands. On dividing the skin over the inguinal tumor, what seemed like a hernial sac was opened with care, and a portion of omentum the size of a large almond shell was found firmly adherent to the saphenous opening and the lower edge of Poupart's ligament. The existence of intes-

tinal hernia behind this could not be determined till the adjacent abdominal wall had been divided and digital examination of the saphenous opening had been made with care, and when found it could not be reduced or *drawn* in, until a considerable incision had been made in the sharp edge of the semilunar fascia. The incarcerated knuckle was in the ileum, three feet from the ileo-cæcal valve, very small, and by no means occluded the intestine, about four inches of which were black and semi-gangrenous, the discoloration gradually fading off into mere congestion in each direction.

Then it was plain that the blow thirteen months before had caused persistent femoral hernia of the omentum; that from time to time a knuckle of intestine had been caught there, but had escaped again, until the fatal incarceration occurred. Perhaps the case might at no time have been a hopeful one for operation, but it certainly teaches the importance of an exploratory incision in doubtful cases.

Imperforate Hymen with Large Accumulation of Menstrual Fluid. — November 14, 1875, I was summoned to an unmarried American girl, seventeen years of age, who was suffering from dysuria almost amounting to retention, having urinated but once and scantily in twenty-four hours. There was no fever, acceleration of pulse, or pain, except during the attempts to urinate. During the previous twelve months she had had two or more similar attacks, one of which was as severe as the present. She had never menstruated or had any “periodic” symptoms, though at times there had been a deal of what was called “stomach-ache,” which appeared on inquiry to have been in the ovarian regions. She was of average height, but quite thin, and rather feeble and quiet; had a decided stoop and a thick and “muddy” skin, disfigured on the face by acne.

Her mother, the buxom mother of six children, never menstruated till her eighteenth year, up to which time her health was poor, and had been healthy and active since. The daughter had, under advice, been kept out of school for a year past and had had tonics and a wholesome mode of life.

The dysuria was considered to be of spasmodic character, probably semi-hysterical, and was treated accordingly. It continued for six hours, when a quart of urine was voided to her great relief, and twice again in the next seven hours she passed water amounting to another quart. This urine was pale, inodorous, clear, and under analysis showed nothing abnormal.

Twelve days later the doctor was again summoned and found her suffering from distressing retention. It appeared that for a week previous micturition had been “troublesome and painful.” She was etherized, with the view of overcoming spasm, if that were the cause of retention, but no urine flowed. Proceeding to pass the catheter the vul-

var opening was found to be filled by a protruding tumor, tense, fluctuating, and exactly resembling the unruptured membranes of the second stage of labor, except in being more firm and resisting. Palpation showed the abdomen to be occupied by a median tumor extending considerably above the umbilicus. The margin of the vaginal tumor was found everywhere continuous with the walls of the vagina.

Here, then, was imperforate hymen, and a very firm one; and behind it was fluid. The finger in the rectum found the vagina to be filled with fluid, and in the direction of the womb nothing solid could be felt. The catheter passed in the proper direction and drew off plenty of urine without in the least diminishing the tumor at the vulva or the fluctuation in the vagina. Moreover the abdominal tumor was not solid, and imparted a uniform sensation to the hands. The diagnosis of a large collection of retained menstrual fluid was made, and Dr. C. E. Buckingham was sent for in consultation. He confirmed the diagnosis, and it was agreed that in all probability menstruation had gone on for several years, till the retained fluid had distended vagina and uterus to the utmost, and the limit of toleration had been passed. Gradual evacuation of the fluid being decided on, etherization was renewed, and the largest trocar of an aspirator was thrust through the bulging vulvar tumor, Dr. Buckingham making firm pressure meanwhile on the fundus of the womb above the navel. Strong pressure was required to enter the trocar. It was several minutes before the fluid began to ooze through the canula, thick, dark brown, inodorous, and of uniform consistence. The aspirator was attached and six ounces were slowly withdrawn. Judging that amount sufficient to relieve immediate distress from over-distention, and wishing to empty the womb as gradually as possible without allowing decomposition of the remaining fluid to be set up, we then withdrew the canula and swathed the abdomen. Measurement of the abdominal tumor after aspiration showed it to be seven inches above pubes, one and one half inches above umbilicus, four inches transversely. It was still median, fluctuating, uniform on feel, and slightly movable. The vulvar tumor was decidedly less tense, but still protruded a little. Patient's pulse and respiration were good. It was decided to make no larger opening in the occluding membrane for several weeks unless the patient's safety required it.

The mother, after being informed of the nature of her daughter's sickness, said, in reply to questions, that the girl had for many months found the sitting posture very uncomfortable, as also the act of going up or down stairs, but that within three months she had taken a walk of two miles.

She was comfortable through the afternoon and evening after the puncture (Sunday, December 26th). Several napkins were soaked through by the discharge. On Monday morning her pulse was 104,

temperature, 97°. The discharge from the puncture had soaked through five folds of a "quilt" beside napkins and a sheet, and was somewhat thinner. The abdominal tumor was two and one half inches below the umbilicus, and proportionably smaller in transverse measurement, having been reduced to one third of its original bulk. In the evening the pulse was the same, temperature 101.5°. No tenderness of abdomen, no pain or dysuria through the whole day. The puncture continued to discharge, but less freely, and the tumor had visibly decreased since morning. Through Tuesday and Wednesday she remained very comfortable. The abdominal tumor continued to subside, and had become much less defined. The abdomen was slightly tender. The discharge from the puncture became offensive, and on Thursday a deodorizing injection of a solution of bromo-chloralum was given by the puncture with the effect of removing the stench. That evening the temperature was 103°, and the puncture, which had been contracting, was so small that a knitting-needle would scarcely pass it. It was surprising to find her the next morning (Friday) in good condition, reporting a good night, and with a pulse and temperature neither of which exceeded 100. But before noon she was in great distress, chiefly abdominal. Her countenance was sunken and pinched. Pulse, 110; temperature, 101.8°. Nothing could be passed through the puncture. She was etherized, and with no small difficulty an incision was made at the site of the puncture which would admit the finger into a roomy vagina. Then with scissors the hymen was opened up to the urethra, down to the fourchette, and laterally to each labium minus. Digital examination found the upper vagina as large as that of a woman who had borne several children. Its lining did not feel like mucous membrane, but was coarse and rough. The uterine os could not be felt. There was free escape of the tarry, stinking fluid — certainly a quart, perhaps three pints. The whole amount evacuated since the puncture must exceed a gallon, and has probably been six quarts. The vagina (and the womb) was washed out by a free injection of bromo-chloralum solution, an oiled plug of oakum was put into the vagina, and the patient left perfectly clean and comfortable with a good pulse. The womb could scarcely be felt above the pubes. The occluding membrane where cut by the scissors was one fourth of an inch thick, and contained much connective tissue.

In the evening the pulse was 104; temperature, 101.6°. The abdomen was soft, well sunken, and not tender. She had had another disinfecting vaginal injection. Next day her temperature was 104° in the morning, but it fell to 101° in the evening. She was free from pain or tenderness, and the vaginal discharge had nearly ceased. The quinia upon which she had been put the day before was increased to six grains four times a day. She had to-day the first natural dejection.

In the afternoon of the next day it was found that she had all over the trunk, but more thickly around the waist, a petechial eruption, purplish, raised enough to be felt, persistent when pressed on. She had also a slight, short rigor. At midnight she had vomited, and had agonizing pain in the right iliac region, where alone there was abdominal tenderness. This, it will be observed, was one week after the puncture.

One fifth of a grain of morphia subcutaneously gave immediate relief, which lasted till the middle of the next forenoon, when she had a heavy rigor. In the right iliac region, where the severe pain was felt the night before, there was found, close to the bone, dullness and hardness extending more than two inches longitudinally, and one inch transversely. There was no heat, dryness, or fœtor at vulva. Dr. Buckingham again saw her in consultation. It was plain that blood-poisoning had occurred, and that she was liable to an abscess in the abdomen. It was agreed to substitute brandy for the wine she had been taking, and to give as much of it, together with nutritious liquid food, as she could be got to take and retain; also one and three fourths grains of salicylic acid every two and one half hours. Between one and three o'clock this P. M. she had seven stools, purely fœcal, growing looser as they proceeded, and followed by a sense of relief.

On January 4th another tumor was detected in the hypogastrium, which was not at all tender. She had two good stools. Two days later another but less distinct tumor appeared in the left inguinal region, and on that day there were three loose fœcal stools. Meanwhile the tumors on the right and in the middle were increasing in size, and five days later (January 11th) they had nearly coalesced, the upper part of the right one having risen to a level with the crest of the ilium, but the general surface of the abdomen was not swollen.

A week later, all the tumors were diminishing, and the general abdominal surface was flatter than normal. All this time the patient was slowly improving, her pulse and temperature averaging 100. She could lie in any position since January 11th, and though her stomach was irritable she was enabled by careful feeding to retain a good deal of nourishment and stimulant. There had been no discharge from the vagina, rectum, or urethra, which could pass for pus or serum, or any modification of either. At this date there was a rise in the pulse and temperature; she sighed frequently, but there was no pain or evidence of depression, and the abdominal tumors continued to diminish. If this rise of temperature and pulse for five days were not the consequence of a menstrual effort it is difficult to explain them. After this episode the temperature was usually normal.

To return to the tumors; *a week later* they had very much diminished, and the abdomen had ceased to be sunken and was like that of a healthy virgin. Late in April, four months after the puncture, no

tumors could be detected, nor any dullness or tenderness over their old site, and there was a natural amount of subcutaneous fat over the abdomen. It is to be observed that these tumors never dented on pressure, never diminished after free purging. Even that in the left inguinal region was not affected by full enemata.

The petechial eruption before mentioned, which was observed the day after the hymen was freely opened, had not wholly disappeared in a fortnight; when it was three days old about half its spots had become miniature pustules. These gradually dried away, while the others as gradually became less prominent and less livid.

At this time the oakum plug which had been worn in the vagina was changed for sea-tangle tents, and these again for Barnes's dilators. Three months after the operation, a vaginal examination being made, the finger entered with tolerable ease, the orifice yielding to gradual pressure; the vagina was more roomy than is usual in virgins, its lining was normal mucous membrane, no longer leathery and rough. The womb was movable, and its mouth, which was perfectly distinct, was more elongated than the normal virgin os.

She menstruated scantily February 3d and March 8th; normally April 11th (fourteen weeks after the operation), and every month since. She now weighs thirty-four pounds more than when she left her bed, and is in every way healthy and happy.

The abdominal tumors were probably the results of limited peritonitis, giving rise to effusions of lymph, but never going on to suppuration. Their progress from detection to disappearance occupied *ten weeks*, and it was curious to see how independent their course seemed to be of the general condition of the patient.

It has been suggested as an improvement in the operative treatment of such cases that after the *first* withdrawal of fluid some disinfectant should be injected at the puncture, with a view to avoid septicæmia, while the advantages of gradual evacuation are still retained. The risk attending sudden and complete evacuation is said to be less from so-called "shock" than from peritonitis induced by laceration of existing adhesions as the womb suddenly settles down into the pelvis.

RECENT PROGRESS IN MEDICAL CHEMISTRY.¹

TOXICOLOGY.

BY E. S. WOOD, M. D.

Fuchsine in Wine. — Numerous processes have been given for the detection of fuchsine in wine, and the subject has been considered of of so much importance in France, on account of the liability of this

¹ Concluded from page 17.

coloring matter to contain arsenic, that the selection of the most convenient and best method for its detection was referred to a committee of the Société de Pharmacie, consisting of MM. Latour, Yvon, Wurtz, and Marty, whose report ¹ recommends two methods for detecting this fraudulent adulteration. One, called the Roméi process, which is sufficient for ordinary commercial work, consists in adding to fifty cub. cent. of the suspected wine ten cub. cent. of a solution of subacetate of lead (specific gravity = 1320), warming and filtering. After the filtrate has cooled, add ten drops of acetic acid and ten cub. cent. of amyl alcohol, and shake the mixture vigorously. The amyl alcohol after separating from the wine will be found to be colorless if the wine were pure, but if it contained fuchsine the amyl alcohol will be colored rose or cherry-red, if rosolic acid (another aniline product) the color will be yellow, and if litmus the color will be rose or violet. Decant a portion of the amyl alcohol into a test-tube, add an equal volume of dilute ammonia, and shake. If the amyl alcohol becomes decolorized, and the ammoniacal solution remains colorless, the coloring matter present must have been fuchsine. If, however, the amyl alcohol becomes decolorized, but at the same time the ammoniacal solution is colored violet-red, the coloring matter present was rosolic acid, or if colored blue-violet, litmus.

The second method is the most delicate, and is the one which should be performed in all legal analyses. This method was first proposed by Falières, afterwards modified by Jacquemin and Ritter, and still later by Fordos. It consists in adding to ten cub. cent. of the suspected wine ten drops of ammonia water, shaking, and finally adding ten cub. cent. of chloroform. The ammoniacal solution and the chloroform should be gently mixed together, and the mixture poured into a burette or a separating funnel. When the chloroform has separated, it is to be drawn off into an evaporating-dish and evaporated, a couple of threads of silk being first introduced. On the evaporation of the chloroform the silk becomes dyed with the fuchsine. By this method the fuchsine can be detected in wine, when it is present in the proportion of 0.00005 gramme to the liter, or one part in 20,000,000. If the coloring matter on the silk is fuchsine it becomes decolorized by a drop of ammonia water.

When only traces of fuchsine are present, the most delicate method for its detection is that recommended by Bouilhon,² but it has the disadvantage of requiring a large amount of wine. This method is to evaporate five hundred cub. cent. of the wine to about one hundred and twenty-five cub. cent., add twenty grammes of crystallized baric hydrate, shake, filter after the mixture is cool, and wash the pre-

¹ Journal de Pharmacie et de Chimie, June, 1877, page 579.

² Répertoire de Pharmacie et Journal de Chimie médicale réunis, 1876, page 707.

precipitate until the filtrate has a volume of one hundred and twenty-five cub. cent. This filtrate should be shaken in a flask with fifty or sixty cub. cent. of ether. Decant the ether into an evaporating-dish, add to it three or four drops of dilute acetic acid, and submerge in the mixture a bundle of white silk composed of ten threads, one cm. in length. If much fuchsine is present the ether will become colored immediately on the addition of the acetic acid, but if only a trace is present the silk will become colored only after the evaporation of the ether, in which case the aqueous fluid remaining should be warmed gently, which facilitates the fixing of the color upon the silk. In this manner one part of fuchsine in one hundred million parts of wine (0.00001 gramme = about $\frac{1}{3500}$ grain in one liter) can be detected.

As to the physiological effect of *pure* fuchsine authorities differ. The weight of evidence, however, is greatly in favor of its being entirely harmless. MM. Feltz and Ritter¹ state that it will produce albuminuria in both man and animals. In their experiments upon dogs they found in the urine albumen varying in amount from seven to thirty-two parts per one thousand, granular, fatty, and sometimes epithelial casts. After death they observed degeneration of the cortical portion of the kidneys. These results have not been seen by other investigators. MM. Bergeron and Clouet² deny that such results are produced by *pure* fuchsine, and consider them due to arsenical contamination. Eulenberg and Vohl³ also consider pure fuchsine harmless.

Arsenic. — Rouyer⁴ has made some experiments upon the fatal dose and antidote of some of the compounds of arsenic. He finds that, although the freshly precipitated sesquihydrate of iron is an antidote for arsenious acid, it has no effect in counteracting the action of sodic arseniate or potassic arsenite (Fowler's solution), but that a mixture of a solution of the sesquichloride of iron and the oxide of magnesium will counteract the effect of these salts as well as of arsenious acid itself, and hence this mixture is always preferable to the hydrate in cases of arsenic poisoning. The proper method of administering this antidote is first to give the officinal solution of the sesquichloride of iron, and follow it in fifteen minutes by the magnesian oxide in the proportion of four grammes of the latter to one hundred cub. cent. of the former. In one hour after the administration of the antidote a cathartic should be given. The ingestion of acid drinks and lemonades should be avoided during the entire treatment, since the compounds formed by the union of the arsenic with the antidote are soluble in acids.

Chronic Lead Poisoning. — Dr. Gilbert, of Havre, reports⁵ two

¹ Répertoire de Pharmacie et Journal de Chimie médicale réunis, 1876, page 428.

² Ibid, pages 366 and 390.

³ Vierteljahrsschrift für gerichtliche Medecin, xii., No. 2.

⁴ Répertoire de Pharmacie et Journal de Chimie médicale réunis, 1876, page 528.

⁵ Ibid, page 395.

cases of chronic lead poisoning of very obscure origin. One was that of a newspaper editor, who was in the habit of using daily large numbers of red wafers for sticking together newspaper clippings. These wafers were colored with red lead, and were always moistened by being introduced into the mouth. The symptoms consisted chiefly of anæmia and an obstinate dyspepsia. The attacks of colic were very rare, and there was no constipation.

The second case was that of a professor in the university, and was finally traced to the ingestion of large numbers of *cachous*, which upon analysis proved to contain in each box 0.20 gramme of lead, which was a constituent of the foil surrounding each *cachou*. The amount eaten exceeded a box in two days. Lead was detected in the urine after treatment with iodide of potassium, although none could be found before the iodide was given. This patient never had constipation or colic, but the anæmia was very marked, and there was a slight blue line on the gums.

The following analyses of so-called tin-foil¹ show how totally unfit many of the specimens are as a wrapping material for articles of food. The specimens analyzed were taken at random : —

Tin.....	96.53	85.24	71.20	58.42	40.62	0.00	1.90
Lead.....	3.10	14.06	28.09	41.01	58.00	98.64	95.41
Copper.....	0.21	0.60	0.61	0.36	1.31	1.24	2.72
Total.....	99.84	99.90	99.90	99.79	99.93	99.88	100.03

Hydrocyanic Acid. — Dr. L. Volz² reports an unique case of prussic acid poisoning, in which ferrocyanide of potassium was ingested, and the hydrocyanic acid generated in the stomach by swallowing immediately afterwards a mixture of hydrochloric and nitric acids. The post-mortem appearances were chiefly those of poisoning by the mineral acids, but death was evidently caused by the hydrocyanic acid developed by the decomposition of the ferrocyanide of potassium. The contents of the stomach were found upon analysis to contain hydrochloric and nitric acids, Prussian blue, cyanide of iron, a small amount of undecomposed ferrocyanide of potassium, and free hydrocyanic acid, which was detected by distilling the contents after neutralizing them with bicarbonate of potassium, and setting free and volatilizing the hydrocyanic acid by passing a current of carbonic anhydride through the mixture in the retort.

But one other case of poisoning of this nature is reported. In this case the ferrocyanide of potassium, which was first taken, was decomposed by a solution of tartaric acid. Death took place with all of the symptoms of prussic acid poisoning.

Strychnia. — Experiments were made by A. Huguet³ to disprove a

¹ Vierteljahrsschrift für gerichtliche Medecin, January, 1877, page 179.

² Vierteljahrsschrift für gerichtliche Medecin, January, 1877, page 57.

³ Répertoire de Pharmacie et Journal de Chimie médicale réunis, 1876, page 689.

statement made by Dr. Schuler in a legal case, that "six to fifteen centigrammes of pure strychnia or of one of its salts placed upon the internal angle of the eye of a man would be sufficient to destroy life rapidly and without leaving any traces; the discovery of the poison, which could only be detected in the lachrymal canals and mucous membrane about the eye, would be very difficult, especially as the criminal or even the victim himself could remove it." Ten centigrammes of the sulphate of strychnia introduced into the eye of a dog weighing twenty-four kilogrammes proved fatal, although about one half of the substance was lost. By Dragendorff's process strychnia was detected very plainly in the eye and surrounding tissues, and a trace of strychnia in a mixture of the stomach, liver, and blood. No strychnia could be detected in the brain and cerebellum.

Belladonna. — A blue fluorescent coloring matter has been discovered in all parts of the belladonna by R. Fassbender.¹ This can be detected in very dilute solutions, and has been found in all of the extracts of belladonna which the author has examined. It can be isolated by crushing with a little water two of the unripe berries, evaporating the filtrate to dryness, extracting the residue with alcohol, and digesting this extract, which reddens litmus paper strongly, with animal charcoal, which retains all of the coloring matter. The charcoal is then treated with alcohol to which two drops of ammonia water have been added, filtered, and washed two or three times with alcohol. The fluid thus obtained is strongly fluorescent, and even when diluted with two hundred cub. cent. of alcohol has a distinct blue color. The residue left after evaporating this solution to dryness gives a blue solution if treated with ammonia water. The recognition of this substance may prove of great value in the detection of poisoning by belladonna.

Crystallized Bromide of Conia. — Mourrut² has succeeded in producing crystals of this substance, and in obtaining a preparation of conia which has a constant composition, and from which solutions having a certain strength and a definite physiological action may be made.

The bromide of conia is prepared by treating conia with a dilute solution of hydrobromic acid until the mixture has a neutral reaction, and crystallizing. The crystals can be obtained from the colored as well as the colorless conia by repeated recrystallization, but with a considerable loss of material. Bromide of conia is a tolerably stable compound, but should be kept in a tightly stoppered bottle, and in a dark place. It crystallizes in the form of prismatic needles, which are soluble in water and alcohol, slightly soluble in ether and chloroform, non-deliquescent, odorless, and with but little taste.

¹ Berichte der deutschen chemischen Gesellschaft, ix., page 1357.

² Répertoire de Pharmacie et Journal de Chimie médicale réunis, 1876, page 369.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

APRIL 2, 1877. *Extra-Uterine Pregnancy*. — DR. HILDRETH read a paper upon this subject.

DR. TUCK asked if there was any blood found in the peritoneal cavity, and if the diagnosis of internal hæmorrhage was made before death.

DR. HILDRETH replied that effusion of blood was diagnosticated, and at the post-mortem examination nearly three quarts of coagulated blood were found occupying a space corresponding to the line of dullness marked out over the abdomen before death. The subject of transfusion was considered, but as hæmorrhage was still taking place, and as his experience, when attempts had been made to transfuse in other cases, had not been successful, both he and Dr. Driver thought it not advisable to try it in this case.

DR. FOLSOM referred to two cases reported by Dr. Osgood in 1802, in both of which pregnancy took place in the left Fallopian tube. Both cases went to the usual term, and labor pains set in at the end of the ninth month. Each of these two patients bore children subsequently. One died of an abscess rupturing through the Fallopian tube into the rectum. At the death of each the bones of a fœtus were discovered.

DR. BAKER read the following case: A. W., a native of Germany, twenty-five years of age, was first seen by me July 3, 1875. She had been married five years, and had given birth to one child within a year after marriage, and had also aborted at six weeks one and one half years before my first seeing her.

Her menstruation, which began at thirteen years of age, had been regular in its occurrence, but after her abortion she had suffered from dysmenorrhœa, the pain beginning with the flow, and continuing two days. At the time of her abortion the patient tried to keep about, as usual, but the flow continuing for three weeks she became so much exhausted that she was obliged to remain in bed; the discharge lasted for two weeks after this, the latter part of the time being very offensive in character. On examination there was found to have been a slight bilateral laceration of the cervix, extending to its crown, which had partially healed, showing a short cicatrix on each side. There was also found a marked constriction of the canal of the cervix at the os internum.

The delicate uterine probe passed this stricture readily, but the Simpson's sound only after a few moments of gentle but steady pressure against it. The larger Peaslee's sound would not pass at all. The menstruation, coming on a few days after this examination, was quite natural and entirely free from pain. For the next three months, except on one occasion, the sound was passed, and this stricture dilated a few days before the expected menstruation with the same beneficial result; at the exceptional time, however, the patient failing to come for treatment, the dysmenorrhœa was as much complained of as ever.

On November 10, 1875, the patient entered the Free Hospital for Women for an operation to overcome the stricture of the uterine canal. An examination at that time showed a like condition to that already given, together

with a normal position of the uterus and a depth of its cavity of two and three fourths inches.

Five days after her admission, I divided the stricture, taking the usual precautions against hemorrhage and the re-forming of the stricture. On December 8th, having menstruated naturally and without pain, and the stricture being entirely overcome, so that Peaslee's sound passed readily to the fundus of the uterus, she was discharged well.

For two months after returning home she menstruated regularly and naturally, the last menstruation ceasing February 6th. In March, at the time when the catamenia should have appeared, she had considerable pain but no flow, and the same thing was complained of in April. The patient now felt sure that she was pregnant. In May she was confined to the bed with severe cramps in the lower portion of the abdomen, and there was some appearance of menstruation. She passed one large clot of blood, which she states the woman in attendance picked to pieces, "thinking there might be a baby in it," but nothing of the kind, however, was found. After being in bed about two weeks, still feeling very weak, she was able to get up and move about a little. There was no appearance of menstruation early in June when it should have occurred again, but in the latter part of that month I was called to the patient with the statement that she was flowing. There was but a very slight discharge of blood, scarcely enough to soil one napkin in twenty-four hours; the cervix, however, was somewhat softened and high up in the pelvis, and there was a tumor above the pubes about the size of the gravid uterus at four months. This tumor was firmly elastic, filling the left iliac region, and, near the pubes, extending across the median line somewhat into the right inguinal region. It was not very movable in the abdominal cavity, although somewhat so; it was flat on percussion and tender on pressure; no fœtal heart could be detected, but the bruit de souffle was very distinct at the lower part of the tumor. The breasts were enlarged, and milk had flowed from the nipples; nausea and vomiting had been complained of through the second and third months, but had ceased some time previous to my visit. Patient was suffering some pain of a paroxysmal character. The temperature was 102° under the tongue; pulse, 108. She was kept in bed nearly four weeks, and during the early part of that time was under opiates. In the latter part of July she was able to be about for a few days, although suffering from "cramps in the stomach" at night, and during this time she felt quickening several times. In the early part of August, Dr. Doe saw the patient during my absence from the city, and reported that he found no signs of life of the fœtus; there was however, no menstruation until the very latter part of August, when, for a period of three weeks, she flowed a very little at intervals of two or three days. I saw her early in September, and found her pale, emaciated, her face giving evidence of long and severe suffering. She looked very much like a person having malignant disease. The size of the tumor had much increased, rising to a point two inches above the umbilicus, in the left umbilical and iliac regions, and below the umbilicus, crossing the median line and unequally extending into the right inguinal region. She complained of some pain, although she was able to be about her room during the month of October, and the tumor,

during that month, became somewhat diminished in size. In the latter part of October an examination of the interior of the uterus was made by the passage of the probe, which entered four and one half inches into that portion of the tumor which was in the right inguinal region. The position of the uterus was one of left lateral version, and by palpation its body could be distinguished from that of the tumor, which seemed to have been developed from the left horn of the uterus. This tumor was aspirated without any satisfactory result, the needle being inserted through the abdominal parietes. After the early part of November, when her term of pregnancy should have been completed, she gained in health and was soon able to attend to all her household duties. Menstruation did not recur until December, 1876, since which time it has gone on regularly and quite naturally.

The tumor has gradually diminished in size, until now it is not more than two thirds the size that it was when previously described.

In reviewing the case and making the diagnosis of extra-uterine pregnancy, the various conditions which might give rise to this tumor were severally considered, such as cystic disease of the ovary, adenoma, fibroid tumor of the uterus, malignant disease, renal cyst, enlarged spleen, impacted fæces, dilated bladder, etc., but each, it was thought, was satisfactorily excluded, while the history of the case, with the exception of the foetal heart-sounds, which we were unable to distinguish, was not unlike that which we meet with in pregnancy. Of course nothing but an operation, the ulcerating through of the foetus externally or internally into the bladder or intestines, with the discharge of portions of the foetus, or an autopsy, can make the diagnosis of extra-uterine pregnancy absolute.

DR. CHADWICK asked whether at any time during the course of the disease decidual membranes had been expelled from the uterus, and whether any foetal parts had been detected in the cyst by palpation.

DR. BAKER replied that the catamenia had been regular while the patient was in the hospital under his care, and there had been no subsequent history of any membranes being thrown off. With reference to the presence of foetal parts, he had not been able to detect them.

DR. CHADWICK said that the expulsion of the decidua from the uterus rarely, if ever, failed to occur during the course of an extra-uterine pregnancy or at its completion. Moreover, if the cyst had risen as high as the umbilicus, and the gestation had advanced as far as the fifth month before the death of the foetus, as was claimed, it would seem as though ballottement should have been obtained if there were a foetus present. Enlargement of the uterus would certainly have occurred in case of extra-uterine pregnancy, but might equally well have been caused by the growth of an ovarian tumor which had contracted adhesions with the uterus; this had occurred in an unpublished case in which he had performed ovariectomy over a year ago. It was not uncommon for an ovarian cyst to be arrested in its growth for a long period, after it had enlarged rapidly for a few months.

As regards the unsuccessful attempts made by Dr. Baker to obtain fluid from the cavity, Dr. Chadwick said that he knew of no fluid which would not flow through the largest of Codman and Shurtleff's aspirator needles, on re-

peated introductions, unless it were the ropy, mucilaginous fluid peculiar to an ovarian cyst. In view of the absence of many if not all of the characteristic signs of extra-uterine foetation in this case, he should hesitate to accept the diagnosis as firmly established.

DR. BAKER said it was not the history of ovarian cysts to elongate the uterus, and he had never seen or known of a multilocular cyst producing such constitutional symptoms within four months from its origin as his patient showed, neither would it be likely to cease increasing in size, or diminish after growing six or seven months.

DR. HILDRETH asked Dr. Baker where he located the pregnancy, and whether in tubal pregnancy the sac did not usually rupture.

DR. BAKER replied that he placed the pregnancy in that portion of the Fallopian tube which passes through the left horn of the uterus; he located it here for the reason that had it been farther along in the tube, it would probably have ruptured at or about the third month.

DR. HILDRETH remarked, in regard to the diagnosis of extra-uterine pregnancy, that casting off of the decidua was the most important sign of all; enlargement of the breasts was not an infallible indication, as this sometimes occurs in difficult menstruation. Dr. Hildreth added that where pregnancy has taken place in the horn of the uterus, delivery has been effected by dilating the cervix and delivering through the uterus.

DR. AMORY inquired of Dr. Baker how he excluded fibroid in his differential diagnosis, saying that four years ago he saw a case with Dr. Reynolds which they both considered to be fibroid of the uterus. Soon after the patient was given two so-called electric baths by a female quack at Somerville, which were followed by the expulsion, per vaginam, of a certain fleshy substance, a specimen of which was subjected to a microscopical examination by Dr. Fitz, who reported that possibly some of the softened tissue might resemble villi of the chorion. The tumor gradually reduced about three months after the baths, though the patient had not subsequently submitted to a vaginal examination.

DR. BAKER replied that a fibroid would not have grown to such a size in four or five months; it would have been movable with the uterus, and would not have been attended with the marked symptoms of pregnancy which were present in this case.

APRIL 16, 1877. *Paralysis following Epilepsy.* — DR. INCHES read a paper upon this subject.

DR. WEBBER remarked that paralysis is not very rare after epilepsy, but is generally of short duration, and the patient soon recovers from it. It is unusual to have it so persistent as in Dr. Inches' case; undoubtedly here there was some organic lesion which gave rise to it. Dr. Webber questioned whether the suppression of urine may not have given rise to uræmic poisoning and so favored or caused the lesion which was shown by the paralysis, and which was more likely a hæmorrhage, the paralysis probably not existing when the patient was first seen, but occurring at the time of the second slight convulsion.

DR. FISHER said that the cases of paralysis following epilepsy which he had seen were transient and evidently due to the extreme exhaustion follow-

ing a series of severe convulsive attacks; in this case there had been but one fit which was followed by paralysis of a lasting character. It was not improbable that some other pathological condition had supervened in a case of epilepsy, or the case might be one of commencing general paralysis.

DR. FOLSON remarked that he had seen two cases of paralysis following epilepsy, in one of which there was coincident valvular disease of the heart, which he thought might perhaps have given rise to embolism.

DR. INCHES said there was no cardiac lesion in the case he had reported.

Pigmented Sarcoma of the Choroid. — DR. WADSWORTH showed an eye containing a pigmented sarcoma of the choroid, which he had removed a few weeks before. The patient, a woman, fifty-eight years old, entered the City Hospital about the end of January, with severe pain in the right eye and the right side of the head. She stated that eight days before she had a sudden attack of pain in the right cheek, soon extending to the eye and the side of the head, the eye at the same time becoming blood-shot. When seen by Dr. Wadsworth the eye was moderately congested, the cornea slightly hazy, the pupil somewhat dilated, the iris flattened against the cornea and looking as if degenerated. Tension was decidedly increased. There was no perception of light, and no reflex from the fundus. Although the entire want of the anterior chamber and the appearance of the iris pointed to a disease of long standing, yet the woman was positive in asserting that the eye was perfectly good until eight days before. Iridectomy was advised and performed, but on account of the degenerated, friable condition of the iris, some difficulty was experienced in seizing and drawing it out. The operation had no effect, or scarcely any, in diminishing the tension; it did, however, relieve in part the pain in the eye, though it was complained of afterwards in the back of the head. Ten days later the eye was enucleated.

On opening the eye, a tumor of the choroid was seen, beginning a little to the outer side of the opticus and extending forward beyond the equator. This occupied about one eighth of the globe. The retina was entirely separated and folded together so as to form a narrow cone extending from the optic disc to the lens and ciliary processes. The space between the retina and choroid was filled by a darkish fluid in which were blood corpuscles. The tumor was strongly pigmented and made up mainly of round and oval cells.

DR. WADSWORTH remarked that this case offered a very good example of what is not unfrequently observed, that a person may in great part or entirely lose the sight of one eye without being conscious of it until attention is excited by some accident or an attack of inflammation. In this case, blindness must have existed for a very considerable time; very probably the inflammatory attack was excited by a hæmorrhage from the tumor or choroid.

Dyspepsia following the Subsidence of Epileptic Seizures. — DR. BOWDITCH mentioned the following case: A man, thirty-four years old, had been from his youth a great smoker, until at the age of eighteen, owing to illness or hæmoptysis, he gave up the habit, though occasionally now indulging in it.

Seven and a half years ago he began to suffer every day from epileptic convulsions and pain in the vertex. For this he tried many remedies, and finally consulted physicians abroad. He gradually became better, though ex-

periencing more or less of the trouble until the present pain began, which does not prevent him from attending to his business, that of a government official. During the past two years he has been free from the pain in the head and the convulsions, excepting a recent slight epileptic attack, but he now suffers from pain in the epigastrium, coming on every day. There is no pain or tenderness on pressure; it is not increased by food, and often a hearty meal will drive it away. The bowels are regular, the patient looks pretty well, and all the bodily functions seem to be normal. Dr. Bowditch said that neither he nor Dr. Knight could detect any abnormal symptoms. There seemed to be no organic disease, but the pain at the epigastrium came on in place of the epileptic attacks and the pain in the head. He had never received any injury to the head. Subnitrate of bismuth, in doses of from five to ten grains, would always give temporary relief. Sherry, quinine, and aconite and chloroform liniment exerted no beneficial effect.

DR. WEBBER referred to a case of epilepsy, in which the first attack came on after forced imprudence in diet; every subsequent attack was preceded by an uncomfortable sensation at the epigastrium, and this the patient often experienced as a *petit mal* after the epileptic attacks were relieved by bromide of potassium.

DR. INCHES mentioned a case of epilepsy, in which the first attack came on after the application of leeches to the knee. This attack at first, on account of certain symptoms, opisthotonos, etc., suggested tetanus, but on further examination proved to be an epileptic seizure due to syphilis, and progressed very favorably under the use of iodide of potassium.

SEWERS AND PARKS.

WHEN Boston contained fifty thousand inhabitants it was considered one of the pleasantest summer resorts in New England; people flocked here from the country towns; there was no overcrowding of the population in any portions of the city; the common was a park of unexampled magnitude, and the few wooden conduits called drains were readily cared for or reconstructed by any sensible citizen who might get an appointment to that honorable office. Most of the filth of the city was collected in privies, and no more comprehensive idea of sewerage existed than to build a covered drain of some sort, generally wooden, by the shortest line from the point of starting to the nearest body of water, whether a mill pond, ditch, canal, brook, or open harbor; and the same ideas have prevailed, more or less, in the sewer department until the present day, when twenty million gallons of sewage are discharged daily by several dozen outlets under our very noses, a large part of it having become foul and putrid, and having permanently deposited large quantities of filth in the sewers themselves, through the stagnation in flow caused by tide-gates and bad levels. The law is not entirely at fault for this failure in the sewer department to grow with the growth of the city, for it expressly provides that the city engineer shall have the general supervision of the sewers, and, twenty years ago, the superintendent of sewers was not even a civil engineer. But custom has

recently put the department on an independent footing, so that, unlike many other cities, Boston has not felt the necessity of placing so important a work under the most accomplished talent, even when the introduction of Cochituate water complicated very much what was formerly a simple problem.

The famine fever in Ireland, the growth of our manufacturing industries, and the construction of railroads brought large numbers of foreigners to America, and in Boston we housed them by crowding to their utmost limit old residences built for private families, shanties, and shops, while the ever-increasing demand for more area was met by filling with good, bad, or indifferent material more and more of the ponds, canals, puddles, and marshes on our outskirts. Of course, we soon had an indigent class living under nearly all the bad circumstances of older cities, and our best houses were soon connected with old and new sewers imperfectly constructed, badly arranged, and on flats.

For these evils all classes alike at last required some remedy. For bad sewerage the community demanded at least an expert recommendation, and, in response to this demand, a commission was appointed, whose plan, already before the city, has met with singular favor. It was not to be expected, however, that this would be accepted on the authority of the commissioners alone, and it was therefore proposed that forty thousand dollars be appropriated out of the city treasury for further investigations under the charge of our city engineer, one of the most able and accomplished gentlemen in his profession. The aldermen passed the necessary order by unanimous vote, the council by fifty-one yeas to five nays, and the thorough researches made accordingly under the immediate direction of Eliot C. Clarke, C. E., have simply resulted in strengthening the position of the sewerage commissioners. This report will probably be laid before the city council this week.

The work proposed by the sewerage commission for Boston was estimated by them to cost \$3,746,500; but later and more exhaustive calculations by the city engineer show that the fourteen and a quarter miles of intercepting sewers, with all accessories, can be completed for about one hundred and fifty thousand dollars less than that sum. Undoubtedly if this work is undertaken soon, as there seems a fair prospect that it may be, there will be an effort to have it done under the old sewer committee and sewer department, where the new plans have thus far found their only serious opposition; but it cannot be supposed that a work so vitally affecting such important interests will be finally intrusted to other than the most competent men to be found in the country.

Of course, a certain although not extravagant improvement in the health of the city must follow. We may even not be able to detect it in a lessened "death-toll," but it will be not less sure, and will affect chiefly those portions of our population who spend most of their time in houses, namely, infants and young children, among whom Dr. Curtis has shown that our "undue and preventible mortality occurs mainly." This is so much a matter of necessity that any unnecessary delay in it must be fully justified before our citizens.

No community, however, has reached a high grade of civilization which is satisfied with necessities alone, and we shall before many years, when land will be more reasonably bought, be called upon to spend several million dollars for a less immediate need, or parks, with which we are now but poorly provided,

and which will be ridiculously inadequate when we become a city of a million inhabitants. It has been argued that our splendid suburbs occupy the place of parks, but they do so to only a very limited extent, as they are not accessible to our hard-working population, who must remain in the city during the heat of the summer, and who ought to be provided with breathing places for their leisure hours. Many of us, in the days of our dispensary practice, have sent dozens of pale children to squat on the bridges and wharves to get the air which is better than medicine, and we have thus saved many lives in these rude parks. But more than this is wanted for the thousands. No one who has seen in Europe the laboring classes rushing for the parks when the day's or week's work is over, or who has gazed at the hundreds of babies and children filling them at all times of day, can doubt their immense value in saving life and in laying up stores of strength to be called upon in time of need. The immense sacrifices, too, now making in the old English cities to open parks to the people will cause any expense we may undertake to seem small. If, with its low death-rate, London has the finest main drainage scheme in the world, so has it the most acres of parks in all the cities; and, on the same basis, when our thirty odd square miles contain a million inhabitants, we ought to have one thousand acres in parks. The question of locality is not to be decided here, but let us hope that the poorer classes will be well provided for. Among other things it has been suggested that an island be reserved in the harbor for that purpose, to be reached by cheap steamboat excursions. The project at present under consideration by the city government of beautifying the back-bay lands, although not as comprehensive as it might be from a sanitary or a pleasure-giving point of view, is not without its advantages, and is certainly a step in the right direction.

MEDICAL NOTES.

— The *Journal de Médecine* for June mentions among the noticeable scientific events of the month the presence of the Emperor of Brazil at the Academy of Medicine. The Emperor, who is corresponding member of the Academy of Sciences, wished to see this branch in session, and a special meeting was called for the purpose.

— The latest report of the measures in force in the different provinces in India, says *The Lancet*, towards exterminating wild animals and venomous snakes shows that upwards of 21,000 persons and 48,000 head of cattle were destroyed in one year by wild animals and venomous snakes; that 22,357 wild animals and 270,185 venomous snakes have been killed, and that 120,015 rupees have been expended in rewards.

— The following hint to cigar smokers is copied from the *Medical and Surgical Reporter*: Some smokers puncture the end of the cigar previous to lighting it; some bite off the end; others cut it smoothly with a knife. The latter is preferable, as may be judged from the case of a girl reported in *The Lancet*. She had an ugly chancre on her lip. Independent of the question as to how she became possessed of the sore, the interest of the case (and a melancholy one it is

for smokers) centres in the occupation by means of which the girl got her living, for she had been pursuing it for a period of three weeks with this sore on her lip. She was employed in a cigar manufactory, where her work consisted in rolling the outer leaf round the bulk of the cigar, and when she came to finish off the end, which is put into the mouth, the custom was to bite the superfluous material off with her teeth, making the ends to "stick with a lick." The girl naively supposed that some poison had got from the tobacco into a small crack of the lip. But how much poison is it possible got from the lip among the tobacco? She estimated the number of cigars completed in one day at twenty dozen!

BOSTON LYING-IN HOSPITAL.

CASES OF DR. W. L. RICHARDSON.

[REPORTED BY E. D. PETERS, HOUSE PHYSICIAN.]

Case of Threatened Mammary Abscess from Ulceration of the Nipple.—A. F., primipara, twenty-two years old, entered the hospital January 10th, and was confined on the 21st, the labor being normal.

On the third day the milk appeared in the breasts, accompanied by the usual changes in the temperature and pulse. Both mother and child did perfectly well until the eighth day, when the left nipple became very sore, and a small ulcerated patch was seen. The next day the left breast was swollen, hot, red, indurated, and painful, so that the patient cried out even from the contact of the bedclothes.

The breast was gently rubbed with camphorated oil, during which process the milk flowed out in considerable quantities, and the induration and pain for the most part disappeared. The ulceration of the nipple, however, became decidedly worse. Mild astringent washes were used, the breast meanwhile being supported in a sling. Nursing from that side was prohibited, the right breast furnishing more milk than the child required.

On the tenth day the ulcerated nipple had a healthier appearance, and there was no tenderness in the breast. The milk was rapidly diminishing, though there was still a great abundance in the right breast.

On the eleventh day the nipple was much better, and the milk had disappeared. This state of things continued, and the patient was discharged on the twenty-third day with two healthy breasts, the left one being considerably the smaller and containing no milk, the right one being full of milk of excellent quality, as shown by the healthy and well-nourished infant, which derived its support entirely from this single breast.

The marked improvement which followed the withdrawal of the child from the affected breast was very striking. The breast presented every evidence of a coming mammary abscess, the origin of which was undoubtedly due to the extensive ulceration of the nipple. That such ulcerations are sufficient to produce a mammary abscess of a serious character there can be no question, and the immediate cessation of nursing from such a nipple seems to be unquestionably the first step toward a successful effort to prevent the occurrence of one of

the most painful and troublesome complications which the obstetrician is called upon to treat.

Case of Recurring Malarial (?) Symptoms following Delivery. — J. C., twenty-eight years of age, was delivered of her eighth child at the Boston Lying-in Hospital, March 14, 1877.

On March 16th the milk appeared, accompanied by the usual rise of temperature and pulse.

On the following night the patient had four or five distinct chills, followed by a well-marked febrile reaction. In the morning, however, she felt perfectly well. Pulse 84; temperature 98°. Lochia and milk normal. As evening approached the chills again began, followed as before by fever, and on the morning of March 18th she was ordered three grains of sulphate of quinia every three hours.

At night there were two distinct although slight chills, causing but little discomfort; the next night no chill.

The quinia was reduced to three grains three times daily. The patient continued to improve, and had only one very slight chill during the remainder of her stay in the hospital. She was discharged well, March 28th.

On the first occurrence of the chills the patient was carefully questioned about her previous history, and it was discovered that during her seventh pregnancy and confinement, about two years before, she was living on the lower floor of a tenement building in an unhealthy portion of New York city. Her health was good until a few days after her confinement, when she had for several consecutive nights frequent and severe chills, accompanied by marked constitutional disturbance, which disappeared entirely in a few weeks, to reappear again in Boston after the birth of her next child.

Case of Chorea of Long Standing; Disappearance after Delivery. — L. B., primipara, aged seventeen, entered the Boston Lying-in Hospital March 14, 1877. Ever since she could remember she had been subject to a constant and well-marked twitching of the hands, feet, and facial muscles, which had notably increased after an attack of shingles which occurred two years ago. The condition of pregnancy had had little or no influence upon these choreic movements. During her labor, which terminated ten hours after her entrance, the twitchings were very marked, her hands executing frequent and strong involuntary movements. After the second stage of labor was completed these movements ceased abruptly, and during her convalescence did not reappear at all.

She left the hospital on the fourteenth day, having shown no signs of choreic symptoms since her delivery.

Patients who have suffered from chorea in childhood are especially liable to a recurrence of the disease during pregnancy. In such cases the appearance of the chorea is indicative of serious mischief to either the mother, the child, or even to both. Dr. Robert Barnes reports the notes¹ of fifty-seven cases in which an attack of chorea complicated pregnancy. In seventeen of the cases the mother died; in two premature labor was induced; in ten the child was born with chorea; in two the child was born dead at full term; and in eleven cases the mother aborted. In this case no effect whatever seemed to result

¹ Transactions of the London Obstetrical Society, x. 147.

from the complication of pregnancy with a chorea of long standing. The child was born apparently healthy, but died within thirty-six hours. Neither the symptoms nor the subsequent autopsy threw any light upon the cause of the child's death.

[Since the above report was written the following additional case has occurred:—

M. R., aged twenty-two, entered the hospital June 3d, in labor with her second child. When fourteen years of age she had an attack of chorea which lasted about three months, limited to the right half of the body. The catamenia appeared two months after the chorea ceased. She had no return of the chorea until three months ago, when she was about six months pregnant. The muscles of the right arm and leg were chiefly affected, although there was an occasional choreic movement of the facial muscles of the right side. She was delivered the evening after her entrance. The following morning the chorea had greatly diminished, and five days later was scarcely noticeable. There were no choreic symptoms during her first pregnancy.]

LETTER FROM PHILADELPHIA.

MESSRS. EDITORS,—The vacant chairs in the medical department of the university, to which I alluded in my last letter, have just been filled. The chair of chemistry recently vacated by Professor Rogers has been given to Prof. Theodore F. Wormley, of Starling Medical College, Columbus, Ohio. He has an excellent reputation as a chemist. As a lecturer his talent is undoubtedly of high order, at least so far as delivery is concerned. As you will remember, Professor Wormley read the address on Medical Chemistry and Toxicology before the International Medical Congress in September last, and it can be said that no address was read with more grace or with finer elocution than his. Professor Wormley's published works have won for him a high degree of esteem, especially that on Micro-Chemistry, with the preparation of which is connected a very interesting incident. It is said that when he had completed his beautiful drawings for this work he first learned that the cost of engraving them would deter any publisher from undertaking the introduction of the book to the public. For this reason his prolonged labor seemed destined to result simply in a loss of time and fame. The impending disappointment was, however, averted by the courage and talent of the professor's gifted wife, who at once began to study the art of steel engraving, and with such success that she finally engraved every one of the necessary plates so beautifully that they rival the finest bank-note plates. This story is thoroughly characteristic of American women. Professor Wormley has accepted his appointment and will enter upon his duties at the university in October next.

The canvass for the chair of clinical surgery in this school has been unusually warm. The candidates were all able men. Dr. John Ashurst, Jr., was the successful contestant. He is well known as one of our most accomplished surgical scholars, but few American surgeons being so profoundly read in the ancient and modern literature of his specialty as he is. He has won reputation, too, as the

author of a work on surgery. He takes the chair recently vacated by Dr. John Neill. Dr. Ashurst takes the title of professor because he has the privilege of voting at faculty meetings.

Dr. Francis Gurney Smith has for many years occupied the university chair of physiology. The trustees find it a difficult matter to secure a satisfactory successor to Professor Smith, and have therefore elected Dr. James Tyson, auxiliary professor of pathological anatomy, as temporary incumbent of this chair. Meanwhile the trustees will look for a permanent professor of this branch of medicine. The new curriculum in detail has been arranged as follows : —

First Year. Anatomy, four lectures, eight hours' dissection per week ; normal histology, two hours in laboratory ; materia medica, one lecture, one hour laboratory ; general chemistry, three lectures, three hours laboratory ; physiology, four lectures ; obstetrics, three lectures ; medical and surgical clinics, eight hours. Total hours, thirty-seven per week ; at the end of the course examinations on general chemistry, materia medica, and pharmacy.

Second Year. Anatomy, four lectures per week ; surgical anatomy, two lectures ; medical chemistry, one lecture, one hour laboratory ; physiology, four lectures, two hours laboratory ; morbid anatomy, two lectures ; therapeutics, three ; obstetrics, three ; theory and practice of medicine, four ; surgery, four hours ; clinics, medical and surgical, eight. Total hours per week, thirty-eight. Examinations on anatomy, medical chemistry, physiology, obstetrics.

Third Year. Therapeutics, three lectures per week ; morbid anatomy, two lectures, two hours laboratory ; theory and practice of medicine, four lectures ; surgery, four ; operative surgery, two ; diseases of children, one ; didactic gynæcology, one lecture, and one of bedside teaching ; * bedside instruction in practical medicine (including physical diagnosis), one lecture, one hour teaching ; * practical ophthalmoscopy, one ; * practical electro-therapeutics, one ; * practical otology, one ; * medical and surgical clinics, eight ; special clinics (nervous diseases, diseases of women and children, of eye, ear, and skin), five. Total hours per week, thirty-nine. Specialties marked with asterisk will be so taught that each student will receive direct personal instruction. Final examination for degree : therapeutics, morbid anatomy, theory and practice of medicine, surgery. This seems a sensible arrangement of the various studies. The fact that two years will be devoted to anatomy, and that the examination in that branch will not be made until the expiration of the second year gives universal satisfaction. The dean of the faculty has addressed "to the alumni of the medical department of the university and all other friends of higher medical education" a circular in which he calls their attention to the inadequacy of the old system of education, and explains the significance of the changes recently adopted. He alludes to the "grave responsibility incurred by those who have made these changes." It can hardly be denied, however, that a much graver responsibility rested upon them during the continuance of the old, imperfect system which has finally been shelved. The yearly fee in the two regular schools of Philadelphia is \$140, so that the fee of \$100 which will be required from the third-year men is but little less than the regular payment.

Philadelphia men are jubilant over the settlement of the pharmacopœia question at Chicago, and feel proud of Dr. Wood's share in the discussion.

Dr. Wood, by the way, is devoting much time to scientific experiments on heat in animals. I cannot even shadow the results, since they will in good time be published. But I may say that the experiments are being conducted with very great exactitude, new discoveries have been made, and errors in former experiments of European scientists brought to light. After completing his studies on animal heat Dr. Wood will proceed to experiment on the effect of antipyretics on heat. We may look for fresh and valuable additions to our knowledge in this direction.

In my last I mentioned that two of the summer lectures at the university were given by auxiliary professors. I should have said that *five* of the auxiliary professors were thus engaged, one of whom, Dr. Harrison Allen, is hard at work upon the first complete work on general anatomy ever written by an American. Dr. Allen is professor of comparative anatomy at the university, and makes a most sensible and ingenious use of his thorough knowledge of this branch of science by teaching general anatomy through and by means of comparative anatomy. He also holds the chair of anatomy in the Philadelphia Dental College. Modest, kindly, and courteous, he has many friends, and his general culture, especially his profound knowledge of anatomy, bespeaks for him a large future.

Two years ago the Philadelphia Hospital abandoned the practice of issuing certificates to students who attended the clinics at this institution because certain of them, notably the homœopaths, used the certificates as diplomas. The authorities at Pennsylvania Hospital have not followed this example, but still issue certificates to all students who make use of their clinics, and the body of students is composed of all sorts, regular, eclectic, and homœopath. Women, however, have not been admitted since the fracas of 1869.

One of the busy practitioners of Philadelphia has by an odd coincidence recently been called to three serious cases, all of which had previously been in the hands of homœopaths, and in each of which had been made a most stupid error in diagnosis. One of these cases was a nephritis of severe type, but which had not been recognized by the homœopath, who had not made a single examination of the patient's urine, which was found by the regular physician to contain three fourths albumen. Upon questioning the patient's wife as to the diagnosis of the homœopath who had been treating the case over six months, he was told that "the doctor said it was slouching of the liver and decomposition of the bowels."

It never has been satisfactorily explained why it is that homœopaths, aside from their peculiar dogma, are generally so poorly educated in medicine. But this fact may explain the unwillingness of homœopaths when ill to be treated by one of their own school.

In my next letter I hope to give you a sketch of a medical school in Japan, founded two or three years since by Dr. Berri, a Japanese graduate of Jefferson Medical College. He opened the first school of anatomy ever known in Japan, and has translated Heath's Anatomy into his mother tongue. Dr. Berri is at present in Philadelphia.

II. O.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 30, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	569	27.46	27.46
Philadelphia	850,856	338	20.66	22.88
Brooklyn	527,830	248	24.44	24.31
Chicago	420,000	166	20.55	20.41
Boston	363,940	121	17.29	23.39
Providence	103,000	26	13.12	18.34
Worcester	52,977	12	11.78	22.00
Lowell	53,678	8	7.75	22.21
Cambridge	51,572	15	15.12	20.54
Fall River	50,372	16	16.52	22.04
Lawrence	37,626	8	11.06	23.32
Lynn	34,524	16	24.09	21.37
Springfield	32,976	4	6.31	19.69
Salem	26,739	11	21.39	23.57

BOOKS AND PAMPHLETS RECEIVED. — Cases of Cystic Tumors of the Abdomen and Pelvis. By George Holmes Bixby, M. D. (Reprint from Vol. I. Gynæcological Transactions.) 1876.

Report of Bowery Branch. Young Men's Christian Association, 134 Bowery, New York.

Report on Dermatology. By Lunsford P. Yandell, Jr., M. D. (Reprinted from the American Practitioner, June, 1877.)

Analysis of Seven Hundred and Seventy-Four Cases of Skin Disease. By L. Duncan Bulkley, M. D. (Reprinted from the New York Medical Journal, April, 1877.)

On the Use of Large Probes in the Treatment of Strictures of the Nasal Duct. By Samuel Theobald, M. D. (Reprinted from the Transactions of the Medical and Chirurgical Faculty of Maryland.) 1877.

Diastasis of the Sternum by the Violent Action of the Diaphragm during Coughing. By T. J. Lutz, A. M., M. D. (Reprinted from the St. Louis Medical and Surgical Journal.)

Proceedings and Reports of the Sanitary Commission of the City of Atlanta, Ga. 1876. Pp. 195.

Case of a Bearded Woman. By Louis A. Duhring, M. D. (Reprinted from the Archives of Dermatology.) 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, JULY 19, 1877. — NO. 3.

INSANITY AND THE REVIVAL.

BY THEODORE W. FISHER, M. D. HARV.

As allusion is frequently made to the effect of so-called revivals of religion in producing insanity, I will give brief abstracts of a few cases seen within the past two months, in which this cause seemed to have had some influence. As a large part of the Tabernacle audiences was composed of persons from the country, these city cases will give no idea of the whole number, but will give a glimpse of the way in which undue religious excitement produces or helps to produce insanity. I have not included cases in which the fasting and special services of Lent have been instrumental in bringing on mental disorder, though a few such occur yearly.

CASE I. Mr. A., thirty years old, single. No insanity in family acknowledged. Is robust, of good color, and apparently in good physical condition. No cause for the present attack assigned, except undue interest in religion. Attended the meetings at the Tabernacle, and read religious books just previous to his recent outbreak. Now very much excited, and under the delusion that he is Christ, and can control the movements of those around him. Sleeps little. Walks and talks constantly. Violent if opposed. Sent to an asylum.

CASE II. Miss B., thirty-seven. Is a member of some evangelical church. Two uncles were "Millerites." Has suffered from debility and bad teeth this winter. Went to the Tabernacle and was much interested, but took cold from a draught, and had facial neuralgia. Attended special meetings in her own church, and became "reconverted." Sang the "gospel hymns" of Mr. Sankey continually. Mania soon developed, with the delusion that she was Christ, and was going to do great things for her church and the neighborhood. Very much excited, talking and singing day and night until utterly exhausted. Violent if opposed. Sent to an asylum.

CASE III. Mr. C., fifty-seven, married. Mechanic, and owns a patent. Out of business for several months. Came to Boston to collect money. Was attracted to the Tabernacle, and became much interested. Always of a religious turn of mind. Began to speak in the prayer and temperance meetings, and then felt a call to preach and teach in the

streets. Thought he must obey the Bible literally in all things. Gave up business, because David said he had "never seen the righteous forsaken," etc. Thought he should become "a son of God," if he allowed himself to be "led by the Spirit." Arrested three times by the police on account of his strange behavior while talking in the street, or waiting at a corner for the Spirit to tell him which way to go. After third arrest friends arrived, and took him home in a very violent condition.

CASE IV. Miss D., twenty-one. Member of a church. No insanity in family, but mother died of phthisis. Is of a conscientious, care-taking disposition, and inclined to go to the limits of her strength. Early this year read Mr. Moody's sermon on the second advent, and attended the "week of prayer" meetings at her home. Thought she was reconverted, and exhibited a strange and abstracted air. When questioned, only said, in an emphatic and mysterious manner, "*Watch!*" referring evidently to some great event about to take place in the church, probably the second coming of Christ. Soon became mildly delirious, losing sleep and appetite, and keeping her bed for a week or two. While physically convalescent, acted in a childish, weak-minded way, and dropped all allusion to religious subjects. Came to Boston, where I saw and prescribed for her. Soon recovered her mental equilibrium and went home, realizing her narrow escape from serious and perhaps permanent insanity.

CASE V. Miss E., twenty-one. No insanity in family, but is of a delicate constitution and nervous temperament. Three years ago became converted after a long and painful mental struggle, and joined the Episcopal Church. Was very ambitious, and was disappointed in getting a position in the Public Library, which was needed on account of her mother's poverty. Six months ago first showed her mental disturbance by her conduct at a church meeting. Developed a morbid self-conceit, and began to be rebellious under family restraint. Thought whatever she did was right, since she was under spiritual guidance, and that she was the daughter of some fine lady whose name was "King." Became unmanageable, and was sent to an asylum.

CASE VI. Mr. F., thirty-five, letter carrier, married. No insanity in family known. Always a nervous, talkative man, given to religious exhortation, in season and out of season, for a year or two. Much interested in the recent revival, and this spring concluded that he ought not to work on Sunday morning at the post-office. Was relieved from this special duty by another carrier by order of the postmaster. He then thought that he should have resigned his place, instead of "compromising," as he called it. Soon became actively melancholy, thinking that he had committed the unpardonable sin. Could neither sleep nor eat, and suicide was feared. Was sent to an asylum.

CASE VII. Mr. G., twenty-eight, single. Good physical health.

Cousin insane. Temperate. Salesman in one establishment for ten years. Changed his business lately. Has attended Tabernacle services. Is a regular attendant at church, but has lately refused to pay for a seat, and has sat where he chose, under the delusion that he had some peculiar claim to any seat. Recently had an attack of vertigo in a barber's shop, and soon after became maniacal and incoherent. Thinks he is directed to talk as he does by God, and attaches great importance to his ravings. Sent to an asylum.

CASE VIII. Mr. H., forty. Arrested by police. No facts known, and can get no information from him, except that he has attended the Tabernacle services and his name is "Moody Sankey." Is well dressed, with a farmer's frock on. Looks intelligent and in good health, but answers very slowly and reluctantly if at all. Don't seem to care where he goes or what is done with him. Sent to an asylum.

It would not be fair to attribute all these and similar cases to the effects of revival preaching. Insanity with religious delusions is common at all times, and takes its form from, when not in part caused by, the special religious belief in which the patient was educated. Insanity arises from perverted emotional states, and consists essentially in exaltation or depression, with exaggerated self-feeling. Religion also has its root in the emotional nature, and, as too often taught, leads directly to self-consciousness and morbid introspection. It encourages undue scrupulosity and excessive conscientiousness and self-accusation in persons of the purest lives. Repressed feeling in other directions especially tends to unhealthy and exaggerated religious feeling. This is particularly true of the sexual instincts when unsatisfied. There is, therefore, at all times a large number of persons ready to give themselves up to emotional excesses when encouraged by the example of others or upheld by popular sentiment.

This relation between morbid or mistaken religious feeling and mental disease is so intimate that melancholia takes on a religious aspect in many cases, even in persons of little or no religious training. Mental depression is very often accompanied by a sense of general wickedness or a delusion of having committed some particular sin, for which the patient's mental suffering is the punishment. The delusion of actual suffering in hell or of the tormenting presence of the devil is a usual sequence.

The technical "conversion" of the prevailing theology is a process so nearly parallel to the above train of symptoms that it easily passes into melancholia in some temperaments. "Conviction of sin" and "a sense of divine wrath" have upset the mental equilibrium of many a youth, at least temporarily. Reaction, however, generally occurs, accompanied by a joyful state of feeling, which may also run to excess and pass the bounds of reason. The sense of pardon and of special

divine favor may develop into "spiritual pride" and a belief in divine guidance or even possession. Then follows the delusion that the patient has divine power, or is himself Christ or God.

The number of persons actually made insane by religious excitement has probably diminished with the gradual softening of the rigors of orthodox belief. Those nowadays who, "like Sir Harry Vane, have caught gleams of the beatific vision or awaked screaming from dreams of everlasting fire," are apt to be accounted insane and treated accordingly. Religious maniacs as well as religious enthusiasts have decreased. Bucknill and Tuke state that the Emperor Marcus Aurelius was obliged to make a law condemning to banishment "those who do anything by which men's excitable minds are alarmed by a superstitious fear of the Deity." Pinel found that about one fourth of the cases of insanity with the causes of which he was acquainted were due to excessive religious excitement. During and after the French Revolution political took the place of religious excitement as a cause of insanity.

I have examined about sixty reports of asylums in the United States for the year 1876, and find in tables covering various periods 36,983 cases of insanity in which the probable exciting cause had been ascertained. The following table will show the number of cases attributed to undue religious interest:—

	Total of Cases.	Religious Excitement.	Percentage.
New England	5,547	276	4.97
Middle States	13,289	370	2.78
Southern States	2,299	171	7.43
Western States	15,848	1,327	8.37
<hr/>			
United States	36,983	2,144	5.79

These figures must be taken with the allowance required by all statistics of this kind. They certainly show a large percentage of cases assigned to the cause in question, when we consider the large number of causes usually set down, especially in the Southern and Western States. It ranks with the first four or five out of more than thirty causes mentioned. The percentage in the Middle States is lowest, because the large cities of New York and Philadelphia furnish so few cases.

Perhaps it is needless to add that true religion does not in itself tend to produce insanity, but is its best moral preventive and antidote. It is the false theology and superstition too often mingled with popular religious instruction, and urged upon ignorant and susceptible minds with vehemence and implied threats of divine anger, that are liable to disturb an already too unstable mental equilibrium.

A CASE OF SPLENIC LEUCOCYTHÆMIA.

BY GEORGE S. STEBBINS, M. D., SPRINGFIELD.

G. H., aged forty-two years, resided in the South seventeen years, from the age of twenty to that of thirty-seven, during the last two years of which he suffered more or less continuously from fever and ague, and in 1861 he was confined to his bed for several months from the effects of malarial poisoning. For many months subsequent to this attack he was afflicted with a severe and very troublesome cough, attended with almost constant headache.

In 1872 he first came under my care for a severe pain in the region of the left hypochondrium extending to the left shoulder. The character of the pain simulated neuralgia, and promptly yielded to the tonic and sedative remedies frequently resorted to in that malady.

During the period from 1872 to 1876, he was a victim of what he styled, "bilious attacks," which were generally characterized by torpidity or congestion of the portal circulation, headache, constipation, loss of appetite, slow pulse, slightly furred tongue, and general malaise.

He was taken quite suddenly, about midnight, in March, 1876, with a severe pain in the right hypochondrium, and called in the nearest physician, who succeeded, after a time, by use of vigorous measures, in relieving him of his intense suffering. On the following day his physician detected a considerable swelling over the lower border of the liver, tender and painful on pressure.

It was his opinion, as well as that of the consulting physician, that it was a case of abscess of the liver, which they proposed to aspirate on the succeeding day. Previous to the hour appointed for this procedure, the external tumor suddenly collapsed and disappeared, and as its subsidence was soon followed by a profuse and intensely offensive discharge from the intestines, it was supposed to have discharged its contents into that channel.

Just what the tumor was, whether a suppurating gall-bladder, or an abscess proper, or something else, was not satisfactorily determined.

Two months later, in May, 1876, the patient began to complain of "fullness" and tenderness, and apparent hypertrophy of the spleen was observed.

During the succeeding summer and autumn the sense of oppression, tenderness, and the enlargement of the organ growing more and more marked, in obedience to the advice of friends he consulted a physician of Boston, under whose care he remained for several months. The treatment carried out by him consisted more especially of more or less frequent injections of ergotine into the spleen, which were followed by pain of greater or less severity, sometimes intense and continuing for

several hours, attended with vertigo and more or less syncope. The direct effect of the injections upon the spleen was a slight diminution in the size of the organ. It was so much enlarged that its lower border reached the point about midway between the crest of the ileum and the pubes, and laterally beyond the median line. The enlargement was uniform, the natural contour of the organ being perfectly maintained.

On February 28, 1877, I was summoned, and found him confined to his bed with the following symptoms: extreme vertigo and nausea on any attempt at moving or raising his head; great distention of veins of the head, neck, and upper extremities; face and eyelids slightly œdematous; pulse medium, full, slow, and soft; temperature 99°; tongue a little coated, but very dry; urine scanty and high colored; bowels constipated; occasional chills followed by slight febrile reaction; great thirst; and a most insatiable craving for food of any and every kind.

The treatment resorted to was a purgative dose of calomel, followed by saline laxatives in doses sufficient to insure regularity of the bowels, after which a tonic and gently stimulating course of treatment was adopted, combining phosphorus, quinine, iron, and brandy. For three or four days the giddiness and nausea considerably abated, after which it increased in severity, when, on about the ninth day of his illness, hæmorrhage from the stomach began, which persisted until his death, forty-eight hours later. At intervals of from one to three hours he would vomit blood in quantities varying from a gill to a quart. He lost in this manner almost the entire blood in his body. There were dark, tarry, bloody stools.

The autopsy revealed the following: the spleen was found to weigh sixty-eight ounces, and had pressed upon the greater curvature of the stomach so firmly as to cause a well-marked indentation into the substance of the spleen. The substance of the organ was quite hard or firm, somewhat mottled, and the Malpighian corpuscles were quite prominent. The liver, which did not extend much if any below its normal level, was found greatly thickened and enlarged antero-posteriorly, and, like the spleen, had been producing pressure upon the other extremity of the stomach. There were no evidences of abscess of the liver, as it was surmised there would be.

The mucous membrane of the stomach was softened, and the walls of the organ remarkably attenuated. There was but very little blood in any part of the body save in the stomach, which was nearly full. The blood was of a dark, muddy, chocolate color, so well described by Trousseau. The structure of the liver was normal in appearance. The diminution of the red and great increase of the white blood corpuscles so pathognomonic of leucocythæmia was remarkably apparent upon microscopical examination, the leucocytes being in great preponderance. The peculiar ravenous appetite of the patient was one which I believe

will generally be found to attend any considerable hypertrophy of the liver, when the substance of the organ remains otherwise normal.

The case is one of interest as illustrating the declaration that "the spleen is the birthplace of the *white* and the burial ground of the *red* corpuscles," and also as showing the chronic, steadily progressive course of malarial blood-poisoning, terminating in its destruction, decomposition, and death from hæmorrhage and exhaustion. The cause of the profuse hæmorrhage was doubtless chiefly mechanical, the enlarged liver and spleen producing sufficient pressure upon the blood-vessels to impede greatly the return of blood from the upper extremities, and, as Trousseau suggests, there was doubtless extensive rupture of the capillaries of the stomach, caused by their becoming clogged by the larger white globules or leucocytes becoming agglutinated. There were no other conditions or appearances to account satisfactorily for the rapid loss of blood.

RECENT PROGRESS IN PHYSIOLOGY.

BY HENRY P. BOWDITCH, M. D.

VASO-MOTOR MECHANISM.

IN the report on the progress of physiology published in this journal in January, 1875, an account was given of the experiments which led Goltz to the conclusion that vascular dilatation in any part of the body, following section of the nerve supplying that part, is due to irritation of vaso-dilator nerve fibres, and not, as generally believed, to paralysis of vaso-constrictor fibres. Allusion was made also to the observations of Putzeys and Tarchanoff, pupils of Goltz, who found, in opposition to their teacher, that electrical irritation of the peripheric end of a divided sciatic nerve causes always a contraction of the vessels of the limb, which gives place only after several minutes to a dilatation attributable to exhaustion. In this report an attempt will be made to present briefly the principal results reached by various observers who have recently endeavored to contribute to our knowledge of the vaso-motor mechanism.

In the first place it should be mentioned that Vulpian, in his *Leçons sur l'appareil vaso-moteur*, which appeared shortly after Goltz's paper,¹ criticised the statements therein contained, and asserted most emphatically that in numerous experiments on curarized and chloralized dogs, he had always found a contraction and never a dilatation of the vessels of the foot to follow an electrical irritation of the peripheric end of the divided sciatic nerve. Equally decided results were obtained by Eulenburg and Landois² in their experiments on rabbits and dogs, the ef-

¹ Vol. ii., page 480.

² Virchow's Archiv, lxxvi. and lxxviii., and Centralblatt für die med. Wiss., 1877, page 104.

fect of irritation of the sympathetic and sciatic nerves being always a vascular contraction as indicated by a fall of temperature in the part.

Goltz, however, in a second article,¹ reasserted and defended his former opinions, maintaining that if, in accordance with current views on the subject, the vaso-constrictor nerves are supposed to be in a state of life-long tonic activity, it is unreasonable to attribute to their exhaustion the vascular dilatation which, after a short primary constriction, results from the irritation of a divided sciatic nerve, especially as the primary constriction is never so great as that which is constantly maintained during life. He brought forward, moreover, the following experiment, to support his theory: The spinal cord of a strong young dog was divided at the level of the last rib. A few days later, after the temperature of the hind limbs (which rises as the result of the operation) had returned to its normal level, both sciatic nerves were divided as high as possible in the thigh. After another interval of a few days, to allow the temperature to subside, the peripheric end of one of the sciatic nerves was cut away in successive small pieces from above downward, or nicked with scissors through its whole length, or hammered with Heidenhain's so-called "tetano-motor," or treated with strong sulphuric acid. The result of any one of these methods of irritation was to cause an immediate rise in the temperature of the leg operated on, the difference between the two legs amounting frequently to 10° C.

The question then arose, Why does irritation of the sciatic nerve under these particular circumstances cause dilatation of the vessels of the foot, while under ordinary circumstances the opposite result is produced? The first experiments throwing light on this question were those of Ostroumoff.² This observer, operating on curarized dogs, found that, while tetanic stimulation of the peripheric end of a *freshly divided* sciatic nerve caused a prolonged contraction of the vessels of the foot, indicated by a decided fall of temperature, the same stimulation applied to a nerve *three or four days after section* was followed by a rapid rise of temperature.

He found also that stimulation by single induction shocks, applied at intervals of five seconds, caused, even when the nerves were freshly divided, a rise of temperature in the foot. The same result could also be produced, though with difficulty, by certain very weak tetanic irritations. To explain these results Ostroumoff assumed the existence in the sciatic nerve of two sorts of vaso-motor fibres, namely: (1) vaso-constrictors, irritable by tetanic stimulation, and rapidly degenerating after section; (2) vaso-dilators, irritable by slow rhythmical stimulation, and degenerating slowly after section.

Kendall and Luchsinger,³ at about the same time, but entirely inde-

¹ Pflüger's Archiv, xi. 52.

² Pflüger's Archiv, xii. 219.

³ Pflüger's Archiv, xiii. 197.

pendent of Ostroumoff, reached almost identical results in a series of experiments on dogs, cats, rabbits, and ducks. The rhythmical stimulation employed by these observers was rather more rapid (intervals of 0.5'' to 2'') than that used by Ostroumoff, which perhaps accounted for the greater difficulty which they had in causing vascular dilatation by irritating a freshly divided nerve.

Masius and Vaulair¹ were led by their experiments to conclusions very similar to those of Goltz, since they found that either electrical or mechanical stimulation of the sciatic nerve caused in almost every case (and nearly always immediately) a dilatation of the vessels of the foot. Their conception of the mechanism of vaso-motor action will be given in the latter part of this report.

Lépine,² in a series of well-devised experiments on curarized dogs, discovered, as did the above-mentioned German observers, that the time elapsing between the section and the irritation of the nerve affected the result of the irritation, the same stimulation causing in freshly cut nerves a contraction, and in nerves cut several days previously a dilatation of the cutaneous blood-vessels. He did not, however, like Ostroumoff and others, attribute this difference to a slower degeneration of vaso-dilator nerve fibres, for he found that stimulation of a recently divided nerve, which while the temperature of the foot was 30°C. had no marked effect on the size of the blood-vessels, produced a distinct dilatation (that is, a rise of temperature) when the foot had been previously cooled by immersion in water of 10° C., and an equally marked contraction (that is, a fall of temperature) when the foot had been warmed by plunging it into water of 60° C. He also found that if the rise of temperature in the foot, which naturally follows section of the sciatic nerve, was in any way prevented, as by a previous operation on the skull involving considerable hæmorrhage, stimulation of the peripheric end of the nerve caused not a contraction but a dilatation of the cutaneous blood-vessels. Endeavoring to determine more accurately the mechanism of these vaso-motor phenomena, Lépine found that a preliminary immersion of the foot in warm water caused a stimulation of the nerve to constrict the cutaneous vessels, even though the temperature of the foot had from other reasons (for example, curarization) fallen below the point at which a previous stimulation had caused a vascular dilatation. Lépine therefore concludes that it is not so much the temperature of the part which influences the result of stimulation of the nerve as the condition of the terminal nervous apparatus which regulates the calibre of the blood-vessels. This terminal apparatus (perivascular ganglia) has, according to Lépine, purely constrictor functions, and keeps the vascular walls in a constant state of tonic contrac-

¹ Gazette hebdomadaire, October 8, 1875.

² Société de Biologie, March 4, 1876.

tion. When stimulated by cold to its highest activity it so far reduces the size of the blood-vessels that irritation of the vaso-constrictor fibres of the sciatic can effect no further reduction, while the vaso-dilator fibres, also contained in the sciatic and affected therefore by the same stimulation, enlarge the vessels which cold has constricted.

On the other hand, when heat has lowered the tonic activity of the terminal apparatus, and caused dilatation of the vessels, the conditions presented are favorable for the action of the vaso-constrictor and unfavorable for that of the vaso-dilator fibres. The result of the experiment above alluded to is explained by Lépine on the supposition that the tonicity of the terminal apparatus reduced to a minimum by immersion in warm water had not been restored at the time of the stimulation, though the curare had caused a lowering of the temperature of the whole body. Hence the cutaneous blood-vessels were constricted by stimulation of the sciatic nerve in a way usually observed only in connection with a high temperature of the part.

In this connection is to be noted an observation of Eckhard,¹ who found, in studying the blood-vessels of the rabbit's ear, that in the earlier stages of curarization, when the vessels were of normal size or dilated, stimulation of a sensitive nerve caused a reflex vascular contraction, while in the later stages, characterized by constriction of the vessels, the same stimulus caused a reflex dilatation.

(*To be concluded.*)

NEW HAMPSHIRE MEDICAL SOCIETY.

THE eighty-seventh annual meeting of the New Hampshire Medical Society was held in Rumford Hall, in the city of Concord, on Tuesday, June 19, 1877. The president, Dr. A. B. Crosby, in the chair. The attendance was large.

The president, in opening the proceedings, congratulated the association on the favorable condition of the weather and on the large attendance of members, and trusted that the business to be transacted would be conducted with the customary harmony that had characterized previous meetings.

Prayer was offered by Rev. Mr. Campbell, of Francestown.

The reading of the journal of the last meeting of the society was dispensed with.

The report of the council was read by Dr. Conn, of Concord, the secretary. It specified the names of the following gentlemen as having been recommended as new members:—

John C. Marshall, of Lyme, S. N. Welch, of Sutton, M. F. Felt, of Hillsborough, Charles T. Leslie, of Sunapee, Edwin G. Wilson, of Laconia, Clarence W. Tolles, of Claremont, S. W. Davis, of Plymouth, H. M. Nash, of Manchester, Harvey Knight, of Fisherville, and Rufus A. Crittenden, of Plai-stow.

¹ Beiträge, vii. 83.

The report on motion was considered by sections. The secretary was instructed to cast the list of names of new members as a ballot, and the gentlemen named thereon were declared elected.

The memorial of the society for the establishment of a state board of health was next considered, and was adopted by a unanimous vote.

The resolution to have the Subject Catalogue of the Army Medical Library printed was adopted, also a memorial to Congress on the subject.

A resolution touching the publication of the early medical records of the society was adopted.

A long debate took place on a recommendation of the council that "the duties of the nominating committee be changed to those of an executive committee; the number to be three instead of eight, whose duties it shall be to select the orators and the committees to prepare papers at the annual meetings, all papers to be submitted to the executive committee at least thirty days prior to the meeting at which they are to be read; and the committee, with the secretary, shall prepare an order of exercises, giving the name of the member to read the same, and cause the same to be printed and issued to the society with the circular announcement of the meeting. The executive committee shall also appoint the delegates to represent the society at Dartmouth Medical College and at the meetings of the American Medical College and the state associations." The bent of the discussion was opposed to giving such power into the hands of a few; and motions to postpone indefinitely, and to lay on the table, were made. The motion to lay on the table prevailed, with the specified proviso that the subject be taken up and disposed of during the afternoon session.

Dr. Knight, of Franklin, having taken the chair, President Crosby proceeded to deliver an oration. He began by some reminiscent remarks and congratulations on the prosperity of the society, and proceeded to discuss the subject, *The Ethical Relations of Physician and Patient*. It was a plain, practical analysis of the duties of the good physician towards his patients in all relations.

Dr. Cook, of Concord, moved the thanks of the society to the president for his excellent oration, which was referred to the publication committee.

At one o'clock a recess of ten minutes was taken.

On reassembling, Dr. Conn, of Concord, was introduced, and read a very able paper on the duties of governments properly to provide for the safety of their people's health by the establishment of sanitary and hygienic essentials. This duty was enforced by the relation of many appropriate instances showing the importance of sanitary administration. The misdirection of the means required for the conservation of public health was also alluded to with great weight of argument. One prominent feature of the paper was its earnest advocacy of a state board of health, as a great life-conserving and life-saving medium. The thanks of the society were tendered Dr. Conn, and his essay was referred to the publication committee.

At five minutes past two o'clock the society adjourned to attend the annual dinner, to reassemble at four P. M.

The annual dinner of the society took place in the Phenix Hotel, at two

o'clock, on Tuesday afternoon, and was a very enjoyable affair. After dinner speeches were made, and were chiefly reminiscent.

At the afternoon meeting a demonstration of the system of applying the plaster-of-Paris jacket, for the cure of curvatures of the spine, was given by President Crosby, the patient being a boy ten years of age.

Professor Field, of Dartmouth, read an able paper on Therapeutics, dwelling with special emphasis on the qualities of digitalis in the treatment of heart affections.

Dr. A. H. Crosby, of Concord, read a very acceptable essay on Orthodoxy and Heterodoxy in Medicine.

Dr. Allen, of White River Junction, described his method for the reduction of dislocation of the hip-joint.

Drs. W. B. Porter and A. P. Richardson, severally of Walpole, were admitted by ballot to membership.

Dr. Hill, of Dover, exhibited the operation of the Portland respiratory brace, for the relief of those who were unable to sleep in prostrate form on account of lung affections.

Sundry papers were read by their titles and referred to the publication committee, as were all the papers read.

Several district medical society reports were made, and similarly disposed of.

Drs. J. C. Eastman, A. F. Carr, and S. G. Hill were appointed a special committee to appear before the judiciary committee of the legislature to oppose "the medical-tramp" movement before that body.

Dr. Wheat, the treasurer of the society, made his annual report. The income during the past year was \$310, and the expenditures \$363. The Bartlett fund in the bank amounted to about \$1000.

JUNE 20th. The president called the society to order at 8.40 o'clock.

The subject of the loose manner of licensing graduates was discussed at some length, it being apparent that no reliable system exists at present. There is no regular rule as to examinations. Dr. Frost moved that the board of censors to be elected should be organized by the appointment of a chairman and secretary, that examination should be had of the time and place of graduation of licentiates, and that their licenses should become subjects of the society's record. In discussing the motion it was suggested that delegates to colleges should report the names of graduates at these institutions at the periods of their visitations; further, that a special committee of three of the board of censors should be appointed as an examining and licensing committee, who should keep a record of licentiates, and report the same, with the details of their qualifications, to the society. The latter suggestion was adopted by Dr. Frost, and his motion was passed unanimously.

The subject of licensing on diplomas was taken up, and it was the opinion and the practice of censors, as it appeared, not to recognize any diploma not granted by an approved college or medical institute.

Dr. Thomas Wheat, of Manchester, was unanimously re-elected for treasurer.

For executive committee, Drs. W. W. Wilkins, of Manchester, J. W. Parsons, of Portsmouth, and G. W. Carter, of Concord, were elected by seventeen out of nineteen votes.

For censors the following gentlemen were elected: Drs. Frost, of Hanover, Tolles, of Claremont, Hersey and Adams, of Manchester, Cogswell, of Warner, Parsons, of Portsmouth, Barney and Crosby, of Concord, Sanborn, of Franklin, and Gould, of Raymond.

For council: Drs. Gage, of Concord, Weymouth, of Andover, Jarvis, of Claremont, Anthonie, of Antrim, Lathrop, of Dover, Fowler, of Bristol, Childs, of Bath, Crittenden, of Plaistow, Wheeler, of Pittsfield, and Adams, of Manchester.

Drs. Conn, Barney, and Gage were appointed a committee to attend to the petition to the legislature in regard to a board of health for the State.

Professor Smith offered a motion that Dr. Bancroft, of the Asylum for the Insane, be requested to investigate the condition of the insane in the various almshouses and county houses, and report to this society. This process he explained to be merely an introductory step toward legislative action. The statistical facts expected to be gleaned by Dr. Bancroft, who was willing to perform the duty, would compel the legislature to act in the removal of great abuses. After much discussion the motion of Professor Smith was unanimously passed.

Dr. Gage, of Concord, suggested an examination of the condition of the state-prison by the society as a matter of humanity as well as of duty.

Dr. Eastman, from the special committee on the medical-tramp bill, made a report of the action of that committee before the judiciary committee, which he believed would have good effect. He referred to one argument the committee had used in shape of a report of the examination on Tuesday evening of a candidate for license as a medical practitioner, a copy of which is appended:—

“Never read a word of medicine. Had practiced medicine eight years.”...

“How do you know a case of consumption?”

“By a long and protracted cough, loss of flesh, and looks like death. I infer there is consumption, but when in doubt test the case by the following cough medicine. I find if it can be taken, there is no consumption. It is tolu balsam, fir, licorice, squills, and ipecac. It is the balsam and tolu which render it impossible to be taken in consumption. It works like a charm, and cannot be beaten for a cough syrup.”

The subject of splints for fractures was discussed, and sundry splints of novel description were exhibited and described by members.

Prof. Albert Smith, of Peterborough, made a report on the records of the society, showing that they existed in good condition, and giving some account of their leading features. The report was referred for publication.

A discussion on the treatment of aneurism was conducted at considerable length.

On motion of Dr. Hill, of Dover, it was voted that when adjournment took place it should be to meet in Concord on the third Tuesday of June, 1878.

On motion of Dr. Conn, the society voted to accept the invitation of the North Essex Medical Society to join in their annual excursion next fall.

On motion of Professor Smith, it was resolved that the members of this society who attended the reception of the physicians of Concord would ex-

press their obligations to them for the pleasant and agreeable meeting and elegant repast given at the same.

The president made some very interesting practical remarks on Lithotomy.

Dr. Parsons, of Portsmouth, read a paper descriptive of operations for the reduction of Strangulated Hernia.

A final adjournment took place at half past twelve o'clock.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

MAY 7, 1877. *Laceration of the Cervix Uteri as a Cause of Uterine Disease.*

— DR. BAKER read a paper upon this subject which is reserved for publication.

DR. HILDRETH asked Dr. Baker if he knew of any cases of lacerated cervix which had been operated upon directly after the accident; if not, how soon after confinement would he advise the operation to be performed.

DR. BAKER replied that he should operate in about a month after the injury; he had never known of any case being operated upon earlier than that. As regards the result of the operation, he thought that failure would be very rare if care were taken to bring the whole denuded surface together: all the cases which he had operated upon had been successful, and of the many cases which he had seen operated upon by Dr. Emmet, at the New York State Hospital for Women, all had been successful excepting one, and that was only a partial failure.

DR. J. G. BLAKE asked if any preliminary treatment was necessary, saying that the English surgeons refer to their want of success in this operation.

DR. BAKER said it was necessary first to get healthy membrane, particularly if there was cystic degeneration, or if there were present the remains of cellular inflammation that should be overcome before attempting any operation.

DR. BOARDMAN remarked that he was very glad to have this subject brought prominently before the society, for he had strong reasons for believing that the importance of these lacerations is not recognized generally by the profession in this vicinity. It is not an uncommon occurrence for him to meet with cases of the kind where the laceration has not been diagnosticated, and the treatment perhaps has repeatedly been applied for what is ordinarily termed ulceration of the cervix. In illustration of this fact he related a case which he had seen within a few days, where there was a marked laceration. About one year ago a prominent practitioner had pronounced that there was nothing the matter with the uterus. A short time afterwards Dr. Boardman said that he saw the patient and advised her to have this operation done. She objected, and, after the usual systematic treatment, she recovered her health, but he told her that her old trouble would probably recur before many months; it has returned, and now she is anxious for the operation.

In regard to the symptoms which the reader mentioned as having been observed in these cases, Dr. Boardman remarked that he had, in his experience, been unable to isolate any as peculiar to this affection, and thought that it could not be diagnosticated except by visual and manual exploration.

DR. BAKER said he did not intend to convey the idea that there was a distinct class of symptoms diagnostic of this affection, but he had noticed that in nearly all of his cases one special symptom, namely, intense heat, or, as expressed by the patients, "a great burning sensation" in the lower part of the hypogastrium was present.

DR. RICHARDSON asked if there was a tendency to abortion, or a return of the accident at the time of delivery, in those cases in which subsequent pregnancy took place.

DR. BAKER said he could not speak from experience with his own cases, but Dr. Harrison reports a case which passed through a subsequent confinement naturally and with safety. An examination afterwards showed the os to be wholly uninjured.

DR. BOARDMAN said it was his impression that Dr. Emmet mentioned, in his paper on this subject, that supervening labors do not endanger the results of this operation.

DR. MARION referred to the favorable effect of the operation upon version of the uterus, and mentioned one case upon which he had operated where a retroversion was fully corrected thereby.

DR. BAKER remarked that he had referred to two cases of version in his paper, in which after an operation for laceration of the cervix the displacement had righted itself.

DR. BOARDMAN again alluded to Dr. Emmet's paper, in which he states that in cases where retroversion has existed before the operation the patient should continue the use of a pessary for a time, else the displacement will most likely return.

DR. CHADWICK said he could not allow the discussion to close without expressing dissent from the impression which might be conveyed to the general profession by it and by Dr. Baker's paper, namely, as to the advisability and necessity of operative procedures in every case of cervical laceration and eversion. He was in perfect accord with all that had been said as to the frequency of these lesions, but in his opinion it was the extreme instances only which demanded an operation. By means of topical astringent applications, stabbing of the ovula Nabothi, the hot vaginal douche, etc., he was usually able to afford relief, generally permanent, to all the symptoms. He believed that the tender mucous membrane of the cervical canal which is so speedily eroded when exposed to friction against the vaginal walls, as it is in these cases, may and actually does, in course of time and by the aid of treatment, become toughened, as do other exposed tissues of the body, so as to endure the new relations without being destroyed. In such cases as had been reported by Dr. Baker he should certainly approve of the operation, but he would reserve it for the extreme cases.

DR. BOARDMAN said he would advise the operation in all cases of lateral laceration, and would give the opinion that the lesions resulting from them could not be permanently remedied otherwise; that if allowed to remain, miscarriage would be very likely to occur in the event of pregnancy.

DR. BAKER thought that where a laceration extended beyond the crown of the cervix down to or through the vaginal junction, an operation was imperatively demanded. Dr. Emmet always operated under these circumstances.

MAY 21, 1877. *Enucleation of the Eyeball.* — DR. JEFFRIES read a paper upon Seventy Cases of Enucleation of the Eyeball.

DR. WADSWORTH referred to one case in Dr. Jeffries' series where enucleation of the eyeball was performed after it had been cut across according to Dr. Noyes's operation, and said he had performed this operation four or five times with success, and had always considered it as safe and effective as enucleation. He asked Dr. Jeffries if he had cleaned out the mass thoroughly, saying that Dr. Noyes insisted upon removing all the nerves and tissues within the sclera, and everything that could excite sympathetic irritation; unless everything was taken out it could not be called Dr. Noyes's operation, nor need it prevent sympathetic trouble. After this operation, he thought everything that could excite sympathetic irritation, except the small portions of the ciliary nerves remaining in the thickness of the sclera, was as thoroughly removed as after enucleation.

DR. JEFFRIES replied that after cutting through the eye he had cleaned out its contents, so that the globe collapsed as much as the general inflammation would allow it to. He thought it impossible to clean out the contents of the globe and the ciliary nerves in advanced cases of panophthalmitis thoroughly. As regards sympathetic irritation, he had seen this arise from a stump wholly sclera and not larger than half a small filbert, as also from a cretaceous lens and injuries to the ciliary region. Dr. Jeffries said that he had supposed that Dr. Noyes's operation was advisable only in those cases where we had the anterior portion of the globe filled with pus.

DR. HAY referred to the medico-legal point involved in the removal of an eye, unless the patient distinctly understands the nature of the operation, and said that he once heard of a case where charges were brought against the surgeon by the patient, who affirmed that she did not understand that the eye was to be removed.

With reference to hæmorrhage after the operation, he mentioned a case where the orbit bled for more than a week, notwithstanding that for much of the time it was stuffed and bandaged. It was necessary to remove the sponges when, in consultation with Dr. Hodges, ice-water was applied, but without success; the next day the parts were cleaned, after which the hæmorrhage ceased, showing, as Dr. Hodges thought, the beneficial effect of the air.

DR. HAY said that he had seldom seen an artificial eye which had a pleasing effect, and asked Dr. Jeffries if he had seen the French ones advertised in the *Annales d'Oculistique*.

DR. JEFFRIES said he had compared the eyes manufactured in Paris with those made in New York and Philadelphia, and did not know of any superiority in the former. He had seen artificial eyes which it was almost impossible to distinguish from the natural. One fact he thought it useful to bear in mind, namely, that artificial eyes, when the enamel is worn, may be polished and thus made to last some six or eight months longer.

Amenorrhœa treated by Electricity. — DR. FOLSOM referred to an article recently published in the JOURNAL, giving an account of cases of amenorrhœa treated by electricity, the current being conducted into the uterine cavity by

means of the sound, and in the two cases reported affording relief, in one in a few hours, and in the other in several days after the first sitting.

He said that he had treated amenorrhœa by electricity, but, especially in the case of unmarried women, he thought his method more satisfactory, namely, passing the current from the hypogastric to the lumbar region, or *vice versâ*, because with proper directions the duty may be intrusted to an intelligent nurse. In these cases directions were given to apply the faradic current daily until the catamenia appeared, which usually happened after three or four sittings.

He mentioned the recent theory, upheld by the investigations of Waldeyer and Kundrat, that menstruation is entirely independent of ovulation and fecundation, and said he desired to ask the specialists in that department whether such was the opinion now held by them.

DR. BAKER said he thought the two processes distinct, though, on account of the periodical congestion of the pelvic organs, they were most likely to come at or about the same time, and mentioned in support of this the fact that, after the removal of both ovaries, menstruation has continued the same as before, and also that women have become pregnant who have never menstruated.

DR. FOLSOM stated that if that theory were true, and consequently the nutritive power of every mature healthy woman is in excess of what she really needs while in the non-pregnant state, the symptom of amenorrhœa is really not so important as it has usually been considered, and by none more so than by the women themselves, being actually conservative in a vast number of unhealthy conditions, especially those dependent on chronic disease, or where the waste of the system is directly in excess of the reparative process. The indications for interfering with amenorrhœa, except by tonics, etc., were therefore not very frequent.

With reference to the use of electricity in amenorrhœa, DR. BAKER said he had passed the current from one hand to the opposite foot, as recommended by Dr. Minot, with beneficial effect. He thought that one electrode applied to the uterine cavity might afford relief more quickly.

DR. MINOT said he had, for many years, been in the habit of employing electricity in the treatment of amenorrhœa, and considered it by far the most efficient means in cases in which the symptom is not dependent upon pregnancy or organic disease. In many cases it is successful when a faradic current is passed from hand to hand, or from one hand to the opposite foot. In more obstinate cases, one electrode should be placed on the sacrum and the other over the pubes. If this fail, an intra-uterine electrode should be employed, the other pole being applied to the abdomen. He had, however, known even this latter method to fail, after repeated trials, in a case of long standing, without discoverable organic complications. The patient was somewhat anæmic though not decidedly chlorotic. In another case, the current passed from hand to foot, on several occasions, failed to produce any effect; the patient, a young unmarried lady, proved to be pregnant, but no injurious result followed the treatment.

Dr. Minot said that this method of treating amenorrhœa had been first suggested to him by the late Dr. Buckingham, whose attention was called to the

subject by the case of a lady in whom the faradic current, passed from one hand to the other for the purpose of amusement, brought on the catamenia.

In reference to the independence of menstruation and ovulation, he observed that women who regularly menstruate every three weeks are, nevertheless pregnant forty weeks, just as those are who menstruate once in four weeks.

Dyspepsia in Infants. — Dr. C. P. PUTNAM spoke of nursing children becoming, through the want of a sufficiency of milk, accustomed to a chronic hunger, and showing no well-marked symptoms but those of dyspepsia. Although there may be no evident signs of the child not getting sufficient food at the time of nursing, and the regular feeding and sleeping hours may be maintained, yet there is vomiting accompanied with undigested milk in the stools, and arrest of growth of the child. It would seem as if it had given up all hope of getting sufficient food, for a child that usually gets its fill will always cry if a meal is cut short. Dyspepsia from this cause may be relieved without medication by giving some bottle food with each nursing; but having once had this extra food, the child will no longer be content without it. One may easily be misled into thinking a supply of breast milk sufficient, if the child does not cry for more at the time of nursing, for a little milk may often be pressed from the breast after the child has practically emptied it.

JUNE 4, 1877. DR. BLAKE read a paper upon Unusual Cases in Private Practice.

DR. KNIGHT remarked that paralysis of both posterior crico-arytenoid muscles of the larynx was a very rare affection, and the case reported by Dr. Blake was particularly interesting, inasmuch as it was the only case he knew of in which this condition came on during diphtheria, and, moreover, the only one in which recovery took place in so short a time.

The disease is usually easy to recognize. The symptoms, in the majority of cases, come on very slowly. The voice is generally not affected, but increasing inspiratory dyspnœa is what attracts attention. On examination the glottis is seen fixed permanently in the position of phonation, the glottis chink diminishing instead of enlarging during inspiration. Sidlo reports one case in which there was adhesion of the arytenoid cartilages giving this position of the glottis, but this condition must be extremely rare. The prognosis is always bad, and in chronic cases we never expect to see much improvement.

The recognized treatment is, in chronic cases, tracheotomy at once; in acute cases we may defer it, though we must be prepared to perform it at any moment, in case extreme dyspnœa should supervene.

Ziemssen has collected reports of only nine cases. Dr. Knight said he had seen five cases including Dr. Blake's. In three of them tracheotomy was performed, but there was never any improvement in the condition of the glottis. The fourth declined the operation, and went back to the country, and had not since been heard from. A surgeon in the neighborhood was apprised of the patient's condition, and agreed to call him in case of alarming symptoms. The details of two of these cases were published in the JOURNAL, February 25 and September 30, 1869.

Ziemssen reports beneficial results from the use of the direct and secondary currents alternately in one case.

In reply to Dr. Fitz, Dr. Knight said that, in fact, almost nothing was known about the causation of this affection. In two autopsies pathological changes had been found, in one case in the recurrent and in the other in the pneumogastric and spinal accessory nerves. In another case only fatty degeneration of the muscles was reported.

In answer to Dr. Ellis, Dr. Knight said that the danger in these cases lay in the fact that the glottis was kept closed by the antagonists of the paralyzed muscles, excepting a very narrow chink, which itself might be stopped very quickly by slight inflammatory action, and the patient might die of asphyxia before relief could be obtained.

With reference to obstruction of the trachea after tracheotomy, DR. BRADFORD mentioned a case where the patient coughed up blood casts of the trachea every morning for a week after the operation notwithstanding the constant use of the atomizer; the process of healing being delayed by an attack of erysipelas.

With reference to the case of inversion of the uterus, reported by Dr. Blake, DR. CHADWICK said that he corroborated Dr. Blake's opinion as to the admirable differential diagnosis expounded by Thomas, but the application of these principles in practice, he thought, was not always easy. The uterine cavity is often so much shortened by the traction of a fibroid which is attached to the fundus as to leave the practitioner in doubt as to his diagnosis even after the passage of the sound.

The safest plan to follow in removal of a tumor supposed to be a fibroid is to operate without etherizing the patient. If on tightening the écraseur wire the patient experiences excessive pain, it is quite certain that uterine tissues are being severed, either because the tumor is an inverted uterus or, if a fibroid, because it has so invaginated the fundus as to allow its being grasped by the wire. In either case the pain gives warning in time to avoid unfortunate results.

DR. BAKER referred to the great difficulty sometimes met with in passing the sound or even a small probe in cases of fibroid. He had seen one case in which the skillful hand of Dr. Sims failed to pass the probe, and the diagnosis was made only by the hand in the rectum. This differential diagnosis is extremely difficult when there is a fibroid present with partial or complete inversion. There was at one time at the Woman's Hospital in New York a case of the latter kind. In complete inversion we may succeed in getting the fundus back just within the os externum but no further. In such a case Dr. Emmet once passed silver sutures through the lips of the os so as to retain the advantage he had gained, and on attempting later to proceed with the reduction he found that it had reduced itself.

Taylor's Apparatus for Pott's Disease in the Cervical Region. — DR. C. P. PUTNAM exhibited a patient wearing Taylor's apparatus for Pott's disease in the cervical region, mounted on a plaster-of-Paris jacket, and showed to the society the method of its application. The patient expressed himself as finding great relief from the chin-rest.

Ophthalmoscopic Observation of the Pulsation of the Retinal Arteries. — DR. WADSWORTH showed, with the fixed ophthalmoscope, pulsation of the retinal arteries in a man suffering from insufficiency of the aortic valves and

hypertrophy of the left ventricle. He remarked upon the difference in the pulsation in this disease and in glaucoma. In glaucoma the pulsation consists in a narrowing and widening of the arteries, generally limited to that portion of them situated on the disc. In aortic insufficiency the pulsation may be seen over a large part of the retina, though there is often evident a rhythmical variation in the calibre of the arteries, which is much less pronounced than in glaucoma; the chief characteristic here consists in a change of place of the arteries following each systole of the heart, this change of place being best and sometimes only observed when the artery branches at a large angle to its original course, or when it makes a curve, in the latter case the displacement being toward the side of the convexity of the curve. It has not yet been definitely shown, however, that this pulsation has any special diagnostic value.

Laceration of the Cervix Uteri. — DR. CHADWICK referred to the fact of his having been in a minority of one at the meeting held on May 7th, in objecting to the impression likely to be disseminated by Dr. Baker's report of operations for laceration and eversion of the cervix uteri, and by the discussion that followed. He had then expressed the opinion that an operation was required only in extreme cases, all others being amenable to other methods of treatment.

In proof that this dissent from the opinion expressed was called for, Dr. Chadwick wished to direct attention to a Contribution to the Statistics of Gynæcology, by Dr. V. O. Hardon, of Providence, which appeared in the JOURNAL of May 10, 1877.

In the out-patient department of the Rhode Island Hospital, Dr. Hardon had treated twenty-two cases of "uterine disease" in parous women, during the space of three months; of these, nineteen had laceration of the cervix to such an extent as to lead to eversion of the lips and apparent ulceration, and to produce symptoms of sufficient severity to cause them to seek medical aid. These cases still remained under treatment, and Dr. Hardon hoped, at some future time, to be able to give the results. Suffice it to say that the copious vaginal douche of hot water forms the chief element of the first stage of treatment preparatory to the operation devised by Emmet for the restoration of the lacerated cervix to its normal condition. Dr. Hardon seems to imply, from the above, that of every twenty-two patients with uterine disease seen in an out-patient department nineteen will probably prove to be suffering from laceration and eversion of the cervix to such a degree as to give rise to severe symptoms, which can be relieved only by Dr. Emmet's operation. So extravagant a deduction will find immediate refutation in the experience of every gynæcologist. Dr. Chadwick said that Dr. Emmet had stated to him that, in all his large private and hospital practice, he had never, in the course of any one year, met with more than twenty or twenty-five cases in which he deemed his operation advisable or justifiable.

DR. BAKER said he considered the operation absolutely necessary when the laceration extended beyond the crown, down the side of the cervix, to or through the vaginal junction; in short, in all cases that will allow of eversion.

DR. J. G. BLAKE said he coincided entirely with Dr. Baker in his discrimination of cases which require operative interference.

HYDROPHOBIA.

OPINIONS in regard to this disease differ so widely, both in the profession and out of it, that we have refrained from comment upon the cases which have been presented in this and other journals, until we have an array of material of a character so trustworthy that we think few will deny that the disease known as hydrophobia has occurred with such unusual frequency, both in this country and in England, during the present year, in comparison with experience in former years, as to be considered almost epidemic. The necessity of bringing this subject to the attention of the profession is the more urgent as there seems to exist an apathy in the public mind in regard to the dangers of the disease and an unusual activity of the supposed friends of the dumb animal, who jealously watch all changes affecting his welfare.

A perusal of the cases which have lately been reported cannot fail, we think, to impress the professional reader strongly. The standing of the physicians, the accuracy of the observations, and the great similarity of the symptoms are facts which strengthen the coloring of a picture of fatal disease too constant and well marked in its features to be easily mistaken.

Authorities are so widely at variance as to the value of sanitary regulations in the care and rearing of dogs as a preventive measure that it seems almost hopeless to look for aid from this source. In the presence, however, of an actual epidemic it would be but acting from the dictates of common sense to enforce a most stringent license law. There seems to be no reason why dogs should not be subjected to a restraint equal to that imposed on other domestic animals. Any abnormal condition of living which the custom of the day sanctions cannot be otherwise than injurious to the dog as well as his master. As friends of the animal as well as believers in preventive measures we look with satisfaction upon the vigorous enforcement of the license law in New York. This is, of course, but a temporary expedient. There are many points touching the breeding of dogs in cities which deserve the careful consideration of our boards of health.

In regard to the treatment of the human subject, we have no doubt that the percentage of bites which are followed by hydrophobia is an exceedingly small one. Nevertheless we should feel cauterization to be the safer practice at the present time, although we do not pretend to be able to explain how such a measure, more or less delayed as it necessarily must be, could prevent the diffusion of an active poison. The incubation is a long one, the infection may be correspondingly slow. In no account which we have read does the treatment of the disease appear to have been adequate to the emergency. Complete anæsthesia would seem to be the most effectual way of bridging over the forty-eight hours or more of mental and physical agony which precede the inevitable termination. Should the ordinary methods be found to be unsuited to the occasion, rectal, subcutaneous, or even intravenous injections of chloral, pushed to complete anæsthesia, might be substituted. At all events, now that the disease is ceasing to be a novelty, we trust that the clinical interest of the case will not be allowed to interfere with a judicious treatment. Above all we hope that our readers will furnish promptly any facts throwing light upon this most interesting affection.

MEETING OF MEDICAL EXAMINERS.

IN response to the following circular, thirty of the recently-appointed medical examiners met at the rooms of the Massachusetts Medical Society, No. 36 Temple Place, Boston, at twelve o'clock, July 9th: —

The members of the Massachusetts Medical Society holding commissions as medical examiners under the recent act of the legislature are requested to meet at the rooms of the Suffolk District Medical Society, 36 Temple Place, Boston, at twelve o'clock M., on Monday, July 9, 1877, for the purpose of organizing an association, and taking such further action as the interests of forensic medicine may require.

ALFRED HOSMER,
ROBERT AMORY,
J. L. HILDRETH,
S. W. ABBOTT,
F. W. DRAPER.

July 2, 1877.

Medical Examiners Bronson, Presbrey, Dwelly, Lamb, Snow, Dyer, Hildreth, Hartwell, Hosmer, Hurd, Parker, Warren, Holmes, Tower, Abbott, Draper, Amory, Pinkham, Kingsbury, Gleason, Paine, Miner, Morison, Breck, Carlton, Chamberlain, O'Connell, Sullivan, Winsor, and Towle were present and took part in the meeting. Medical Examiner Sabin sent a telegram regretting his inability to be present and expressing a wish that a permanent organization be formed. After the meeting had been called to order, Dr. Alfred Hosmer, of Watertown, was appointed chairman *pro tempore*, and the following action was taken: —

Resolved, That it is the sense of this meeting that the members of the Massachusetts Medical Society holding commissions from the governor and council of Massachusetts organize a society, and take such further action as the interests of forensic medicine may require.

The following plan of organization was adopted: —

(1.) This organization shall be called the Massachusetts Medico-Legal Association.

(2.) This association shall consist of regular and associate members.

(3.) Regular members shall be only those members of the Massachusetts Medical Society who have been appointed and duly qualified as medical examiners, or being so appointed and qualified shall hereafter be duly elected to membership.

(4.) Associate members shall be those persons who may from time to time be chosen as such under the by-laws.

(5.) The officers of this association shall be a president, vice-president, recording secretary and treasurer (in one person), and corresponding secretary, who shall be elected by ballot.

(6.) These (four) officers shall constitute an executive board, whose duty it shall be to carry out the purposes of the association as expressed in its by-laws or by its votes.

The association then elected the following officers: Dr. Alfred Hosmer, president; Dr. Theodore Breck, vice-president; Dr. Robert Amory, recording secretary and treasurer; Dr. Frederick Winsor, corresponding secretary.

The executive board was instructed to present by-laws at the adjourned meeting.

A committee of three, Drs. Pinkham, Sullivan, and Tower, was appointed to report in writing a list of questions in reference to the recent act concerning medical examiners which in its opinion should be presented to the attorney-general for interpretation, and also to consider and report upon the question of fees for expert testimony presented in court.

The meeting then adjourned until July 23d, at the same place, at half past eleven o'clock.

MEDICAL NOTES.

—The trustees of the Fiske Fund, at the annual meeting of the Rhode Island Medical Society, held at Providence, June 13, 1877, gave notice that they had made no award on the subjects given by them for the present year. They propose the following subjects for the year 1878:—

- (1.) The causation of typhoid fever.
- (2.) Diphtheria: its causes, diagnosis, and treatment.
- (3.) Alimentation in acute diseases.

For the best dissertation on either of these subjects, worthy of a premium, they offer the sum of two hundred dollars.

—We learn from Dr. John Spare that Mr. James Webb, the man so noted as affected with abnormal thirst for a great number of years, is still living at his home in New Bedford, in good health. This case was described in the *New England Journal of Medicine and Surgery* in 1814. A neighbor of his relates that his thirst is much less than in middle life; but still his bucket of water is always placed near his bedside for convenient drink at night.

—Some idea of the size of London may be obtained from the following, which we take from *The Medical Press and Circular*: London, the greatest city the world ever saw, covers, within a fifteen-mile radius of Charing Cross, nearly 700 square miles. It numbers more than 4,000,000 inhabitants. It comprises 100,000 foreigners from every quarter of the globe. It contains more Roman Catholics than Rome itself; more Jews than the whole of Palestine; more Irish than Dublin; more Scotchmen than Edinburgh; more Welshmen than Cardiff. It has a birth in it every five minutes, and a death in it every eight minutes; has seven accidents every day in its 7000 miles of streets; has 123 persons every day, and 45,000 annually, added to its population; has 117,000 habitual criminals on its police register; has 23,000 prostitutes; has as many public-houses as would, if placed side by side, stretch from Charing Cross to Portsmouth; has 38,000 drunkards annually brought before its magistrates; has as many paupers as would more than fill every house in Brighton; has 60 miles of open shops every Sunday; and has an influence

on the world represented by the yearly delivery in its postal districts of 238,000,000 letters.

— The Chamber of Deputies at Vienna has recently passed a law for the suppression of drunkenness in Galicia and Bukovina, which contains the two following provisions: No suits shall be allowed against an individual for debts contracted in an ale-house while he was in a state of intoxication. It is also forbidden to every person who shall have been punished three times for drunkenness during the same year to enter an ale-house, even if he is hungry. This last means for the suppression of drunkenness, says *L'Union médicale*, will make drunkards tremble, — to pass by an ale-house without being allowed to enter!

— It will be remembered that the legislature of California, at its last session, passed an act to regulate the practice of medicine in that State, and provided for the appointment of a board of examiners to determine what persons are duly qualified as practitioners of medicine and surgery. Accordingly, at the last annual meeting of the Medical Society of the State of California a board of examiners was appointed. This board has worked hard during the past year, and has determined the status of nearly one thousand physicians. The secretary of the board, Dr. W. A. Grover, has prepared a catalogue from the material thus collected, giving the standing of each physician; it also contains a copy of the act. It is a valuable book of reference, and might in future editions be made still more so by the addition of such matter as is to be found in our Eastern registers.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. THORNDIKE.

[REPORTED BY GEORGE W. GAY, M. D.]

CASE I. *Compound Fracture of Skull; Paralysis from Depressed Bone; Hernia Cerebri; Death from Exhaustion in Eighty Days.* — Dennis C., thirty-two years of age, was brought to the hospital at 6.45 P. M., March 6, 1877, in a totally unconscious condition. He had fallen through a bridge upon a railroad track, and received an extensive compound comminuted fracture of the right side of the skull, in the region of the parietal eminence. The fragments were depressed, and the membranes and brain substance lacerated. The hæmorrhage was considerable.

Fifteen minutes after admission the left side of the face and the left arm and leg were paralyzed. The right pupil was dilated and insensible to light. The face was drawn forcibly to the right side, but the tongue was straight. Sensation was diminished on the left side but was normal on the right side. At the time of the accession of the paralysis the pulse dropped from 100 to 80.

Dr. Thorndike being absent, Dr. Cheever raised and removed several fragments of bone without etherizing the patient, leaving an opening in the skull three by two and a half inches in extent. Immediately on raising the bone the paralysis disappeared, and the pulse went up to 112. Partial consciousness returned, so that the patient was able to answer questions and give some account of himself within a few hours. Ice-bags were applied to the head.

The next day the patient was conscious and had no paralysis, but convulsive movements set in. They soon passed away, however, leaving him pretty comfortable.

Palsy of the left hand made its appearance in about a week after the accident, and it was predicted for the reason that the temperature of the left axilla was two degrees higher than that of the right, for twenty-four hours previous to the paralysis. It was 102° in the former, and 99.9° in the latter. This fact has been noticed in the hospital in other cases of palsy following head injuries. In the present instance the difference in the temperature of the two sides persisted, to some extent, till death.

A hernia of the brain became developed in about three weeks, and grew to be upwards of four inches in diameter. The patient was troubled a good deal with headache and restlessness, and the palsy of the left side became complete. Emaciation and loss of strength gradually increased, although the patient remained conscious till near the last. Death took place May 25th, eighty days after the accident. There was no autopsy.

The following are some of the peculiar points in this interesting case: the great amount of injury to the skull and its contents; the unusual size of the hernia cerebri; the sudden return of consciousness on raising the depressed bone, and its constant continuance afterwards till death was about to take place; the higher temperature of the palsied side, which preceded paralysis and persisted to the end of life; and finally the remarkable length of time during which the patient survived his injuries.

CASE II. *Fracture of the Base of the Skull; Hæmorrhage from the Ear; Paralysis; Recovery.* — Mr. —, fifty-four years old, a carpenter, was struck by a plank, which fell forty feet and knocked him against a pile of lumber. Admitted December 19, 1876, under the care of Dr. Thorndike. When brought to the hospital, soon after the injury, he was very restless, talking incoherently, and tossing about. Pulse was 80; skin cool; bleeding from the left ear, and vomiting blood. No signs of external injury about the head. There was a comminuted fracture of the left humerus and left leg, both in the middle third. Cold applications were made to the head, and temporary splints were adapted to the limbs. He was expected to die in a short time.

The next day he was conscious and more quiet. He spat some blood and vomited a "coffee-ground" substance during the night.

Five days after the accident there was drooping of the left eyelid and paralysis of the whole of that side of the face. Two days later he was delirious, and swallowed and articulated with much difficulty. The sensation of the *right* side was diminished. It should be said that the delirium was preceded for some days by a dull headache.

January 2, 1877. His speech and power of swallowing were improved, but there was still a light-colored discharge from the left ear.

January 10th (twenty-two days after accident). The patient was removed from the hospital by his friends. He had some headache, and the paralysis of the face still persisted; the left eyelid drooped and the tongue pointed to the left side. The discharge from the ear had ceased. The leg and arm were doing well. He has since been heard from as being well enough to get out-of-doors.

A recovery from a fracture of the base of the skull is so rare an occurrence that the diagnosis may be very justly questioned. Bryant says that facial paralysis combined with a bloody or serous discharge from the ear renders the diagnosis of fractured base complete. The above patient had these symptoms in a marked degree.

CASE III. *Compound Fracture of the Skull; Hemiplegia accompanied by a Higher Temperature on the Affected Side; Death in Three Days.* — Mr. B., aged thirty-seven years, was brought to the hospital January 8, 1877. He had been kicked on the head by a horse, but did not lose consciousness. The right pupil was slightly dilated, but there was no paralysis. There were two wounds on the right side of the head, leading down to a comminuted fracture of the parietal bone.

The patient having been etherized, Dr. Thorndike removed several fragments of bone from the wounds, and also a small piece of a felt hat. Ice-bags were applied to the head, and an opiate was ordered to relieve pain. The patient was conscious the next day, but slight paralysis of the left side began to show itself, and the temperature of the corresponding axilla went up to 102.2° , while it was only 101.2° on the right side.

The third day of the injury the left side was completely paralyzed. The temperature in the left axilla was 104.5° , and only 102.5° in the right. During the day he became unconscious, and both pupils were widely dilated. He gradually failed and died January 11th, three days after the accident. A short time before death the temperature was 107.5° on the paralyzed (left) side, and 105.4° on the other. These observations were very carefully made by two different thermometers, and may be relied upon as being correct.

DR. BOWDITCH'S CLOSING REMARKS AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

MESSRS. EDITORS, — According to your request, I send you a copy of my remarks, made toward the termination of the late session of the American Medical Association, and immediately before those by Dr. Richardson, the president elect, which you printed in a former number of this journal.

Faithfully yours, HENRY I. BOWDITCH.

GENTLEMEN, — The time for the closing of this session of our association has now arrived. It seems to invite me to say a few parting words. I believe I have no precedent for what I shall say, and I trust that I shall not, by this action, entail any unpleasant duty on my successors. But, gentlemen, I dare not trust myself to extemporaneous speech.

I thank you with all my heart for the great kindness you have shown to me in selecting me as your presiding officer during the past year. That you placed me here voluntarily, without solicitation on my part, or (with my knowledge) on the part of my friends, has been deemed by me the highest and sweetest honor of my life.

I thank you, also, for your courtesy displayed during this meeting. There

may have been other meetings equally harmonious, but none, I am sure, more united than the present has been.

Permit me, in this connection, to indulge in a few reminiscences of the past. They present very striking differences from what has been observed during this session. While, perhaps, serving to amuse you, for a few moments, they will also tend to show you how much this association has grown in an honorable self-restraint, from the license of earlier days.

I was chosen secretary at the meeting held in Baltimore in 1848. I served two years, and I know whereof I speak. I wish I could bring up before you distinct pictures of the wild tumults, which often prevailed at our meetings. The sessions resembled nothing, except perhaps some of the riotous displays, witnessed during the closing scenes of our national congress, when both parties are very nearly balanced and party feeling runs high. Possibly, a few of the older members remember how often we unseated our presidents, and made our favorite, Dr. Knight, of New Haven, chairman of "a committee of the whole." The scenes to us secretaries, though unpleasant and, as we thought, disgraceful to the association, were often inexpressibly ludicrous. We silently laughed, at the expense of our elders, to our hearts' content.

Permit me, *calamo currente*, to give you a few pen-and-ink sketches of some of the giants of those days. Each one will present, what to me seemed, the characteristic traits of the part of the country from which the speaker came.

Let us begin at the North. A Massachusetts man, of more than the usual height, and with sonorous voice, appears. He has long been a tinkerer of by-laws in the Massachusetts Medical Society, in which learned and ancient body there had been, for many years, nothing but by-law making and unmaking at every meeting.¹ We were indeed a by-law-ridden association. It was therefore entirely natural that our Massachusetts member should come up, even at that tender age of the association, namely, two years, and bring with him several foolscap sheets of constitution and by-law amendments; and it was an amusing scene to watch the sudden extinguishing of his newly-born zeal. The association would have nothing to do with him, or his amendments.

Next comes up to my mind's eye a very earnest business man from New York; quite satisfied that everything should be done in business style, and possibly of the New York type, which was quite equal, he thought, if not superior, to the mode of working pursued in any other city. Unfortunately, the association did not think as he did, apparently to his great disgust.

Then appears upon the scene the calm and dignified Pennsylvanian, showing a just pride in his alma mater, the University of Pennsylvania; a believer in Rush as the Magnus Apollo of the profession, as he really was and seems now, when we look back upon him and upon his works. But even the Pennsylvanian's dignity was crushed by the heterogeneous mass of humanity it came in contact with.

I hear now, as if it were but yesterday, the clarion voice of the member from Ohio; his stump oratory, with its "tearing of a passion to tatters," even upon some of the smallest of themes; and yet he was a most honest, earnest,

¹ A witty friend of mine, a councillor of the society, once remarked that he thought it would be well to have a standing committee on by-laws whose sole duty should be to report, for every meeting, either some new law, or some amendment of an old one.

intelligent man ; much to be commended, and alas ! too early lost to our profession. *His* voice also was drowned in the multitude of resolutions and amendments, heaped upon him, and upon the unfortunate president, who was wholly unacquainted with nearly all the rules of parliamentary debate.

From far-off Arkansas, which had ever been, to most of us Northern men, the land where the bowie knife was invented and used freely, came a stentorian voice, which seemed, at times, to ring, as it were, with a bowie-knife kind of eloquence, amid the sharp cuts and thrusts of hot debate. But he too was as nothing, before the loud protests of his Northern, and Eastern, associates.

You can now, in some measure, perhaps, imagine what terrible tornadoes of debate our former meetings often presented. Compare them with that smooth trade-wind (to carry out the simile), upon which we have floated steadily, amid the blandest of atmospheres, during this entire session, and you will understand readily the vast difference between the two periods. That difference I take to be a proof that this association has grown in a conscious self-respect, as well as in years. It was a weak, puny yearling in 1848, and knew not its own wishes. It was petulant, very unwieldy, and wholly uncontrollable, even by those who were its appointed guardians. It has since reached a stalwart, somewhat self-restrained, period of youth. It is destined eventually to arrive at manhood. It is, as yet, far from that epoch.

One more circumstance I desire to speak of, which my heart and my warm reminiscences of a beloved friend induce me to lay before you. I have given a few slight hints of the various idiosyncrasies of the speakers, from the different parts of the country, as shown at the general meetings. Identically the same kinds of uproar occurred at the meetings of the National Committee, of which I was a member, as a delegate from Massachusetts. They were less noisy, it is true, because fewer spoke at the same time. On one occasion, however, when we were in utter confusion, a young man arose, whose face and whole deportment, had previously riveted my attention. In truth, I may say, it was love at first sight, on my part certainly. With great dignity and a gravity of deportment in striking contrast with every other speaker, he had uttered but a word, when we were instantly subdued and all attentive. His voice was low and sweet, like that of woman, but of a manly richness of tone. His words were few, but they unraveled, with a winning grace, most of our entanglements. We all bowed before that influence, and acquiesced in his suggestions, as to the leading of a gentle but superior nature. All honor and reverence to the memory of Dr. Peter C. Gaillard, of Charleston, South Carolina, the perfect gentleman, the honest scholar, the kind, unswerving, life-friend. If I had received no other benefit from this association, I should forever support it heartily, because of my many years of delightful friendship, enjoyed with that excellent man, previous to his death.

Let me, gentlemen and associates, now turn to the present hour. Soon we shall separate, some of us never to meet again. Let us part friends in deed and in truth, brothers of a "most noble art."

Last year South Carolina gave her right hand of fellowship to Massachusetts. This year Massachusetts extends her hand, in most cordial friendship, to Louisiana.

Where is the man in this nation who objects to this? Massachusetts, supported, on either hand, by South Carolina and Louisiana! God, bless the Union! And may all the people say, "Amen."

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JULY 7, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	673	32.49	27.46
Philadelphia	850,856	403	24.63	22.88
Brooklyn	527,830	264	26.01	24.31
Chicago	420,000	219	27.11	20.41
Boston	363,940	117	16.72	23.39
Providence	103,000	18	9.09	18.34
Worcester	52,977	9	8.84	22.00
Lowell	53,678	15	14.53	22.21
Cambridge	51,572	9	9.08	20.54
Fall River	50,372	9	9.29	22.04
Lawrence	37,626	10	13.82	23.32
Lynn	34,524	19	28.62	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	5	9.72	23.57

CASES OF KNOT IN THE UMBILICAL CORD.

MESSRS. EDITORS, — Having noticed several cases of knot in the umbilical cord reported in the JOURNAL, I send you a description of a case that occurred in my practice February 11, 1873. Mrs. G., aged forty-one, was delivered of her sixth child after a short and easy labor before I could get to her. The child was living, looked healthy, and weighed eight pounds. On removing the placenta I was surprised at the length of the cord, which, by estimate, must have been at least three and a half feet. About one and a half feet from the placental end was a knot, with the appearance of having existed some time. It was not drawn tight enough to prevent circulation, but the sides of the cord composing the knot were contiguous. My theory was that the child in its movements passed through a loop in the cord some time previous to its birth. The child lived and did well.

UPTON, MASS., July 9, 1877.

JEROME WILMARTH, M. D.

MESSRS. EDITORS, — Your journal has recently contained several cases of knots in the umbilical cord, and I add one more to the list.

Mrs. Bækrath, aged twenty-one, primipara, was delivered August 4, 1876, of a boy. The cord was long (fifty-seven inches), encircled the neck and chest of the child five times, and it was necessary to cut it after the head protruded in order to permit the exit of the child. There were found in the cord two firmly tied knots, one near the placental and the other near the umbilical extremity. The placenta came away easily with a pain soon after the expulsion of the child. The child gave a single cry when the mouth was free, and then became still. It required fifteen minutes' incessant labor to resuscitate the child, who is still living.

Very respectfully,

E. F. WELLS, M. D.

MINSTER, OHIO, July 10, 1877.

CONNECTICUT MEDICAL SOCIETY. — The eighty-sixth annual meeting of this society was held at Hartford, May 24th and 25th, Dr. A. W. Barrows, president, in the chair. The following officers were elected for the ensuing year: President, Dr. R. Hubbard, of Bridgeport. Vice-President, Dr. C. M. Carleton, of Norwich. Secretary, Dr. C. W. Chamberlain, of Hartford.

AMERICAN OPHTHALMOLOGICAL SOCIETY. — The annual meeting of this society will be held July 26th and 27th, at the Cataract House, Niagara Falls.

At the annual meeting of the Rhode Island Medical Society the following-named Fellows were nominated and elected officers for the ensuing year: —

President, Charles H. Fisher, M. D., North Scituate.

First Vice-President, Edward T. Caswell, M. D., Providence.

Second Vice-President, George P. P. Baker, M. D., Providence.

Recording Secretary, W. E. Anthony, M. D., Providence.

Corresponding Secretary, E. M. Harris, M. D., Providence.

Treasurer, T. Newell, M. D., Providence.

Censors, Ariel Ballou, M. D., J. H. Eldredge, M. D., W. O. Brown, M. D., David King, M. D., Otis Bullock, M. D., S. Clapp, M. D., J. W. C. Ely, M. D., George L. Collins, M. D.

MEDICAL SOCIETY OF NEW JERSEY. — The one hundred and eleventh annual meeting of this venerable society was held at Trenton, May 22d and 23d, the president, Dr. J. W. Schenck, of Camden, presiding. The following officers were selected for the ensuing year: President, H. R. Baldwin, M. D. Vice-Presidents, Drs. John S. Cook, A. W. Rogers, and A. N. Dougherty. Secretary, William Pierson, Jr. The next meeting will be held at Spring Lake.

DRS. F. G. MORRILL and E. G. Cutler have been added to the staff of out-patient physicians at the Massachusetts General Hospital.

DR. S. H. WEEKS, of Portland, has been appointed professor of anatomy at the Medical School of Maine.

BOOKS AND PAMPHLETS RECEIVED. — Diseases of the Mind. Notes on the Early Management, European and American Progress, Modern Methods, etc., in the Treatment of Insanity, with especial reference to the Needs of Massachusetts and the United States. By Charles F. Folsom, M. D., Secretary of the Massachusetts Board of Health. Boston: A. Williams & Co. 1877. Pp. 109.

President's Annual Address to the Medical Association of the State of Missouri. By John W. Trader, M. D.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen. Vol. XV. Diseases of the Kidney. By Professor Bartels, of Kiel, and Professor Ebstein, of Goettingen. Albert H. Buck, M. D., New York, Editor. New York: William Wood & Co. 1877. Pp. 796. (From H. D. Brown, Cornhill, Boston.)

Constitution and By-Laws of the Georgia Medical Society, to which is appended the Act of Incorporation, List of Officers and Members, Fee Bill, etc. 1877.

Notes on the History and Climate of New Mexico. By Dr. Thomas A. McParlin, Surgeon United States Army. From the Smithsonian Report for 1876. Washington: Government Printing Office. 1877.

The Toner Lectures. Lecture V. On the Surgical Complications and Sequels of the Continued Fevers. By William W. Keen, M. D., of Philadelphia. Washington: Smithsonian Institution. April, 1877.

Living Witnesses, or Voices from the Inebriates' Home, Fort Hamilton, Kings County, N. Y. 1877.

Annual Announcement of the Hospital College of Medicine, Medical Department of Central University, Louisville, Kentucky. 1878.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, JULY 26, 1877. — NO. 4.

INTRA-UTERINE INJECTIONS IN POST-PARTUM HÆMOR- RHAGE.¹

BY SAMUEL W. TORREY, M. D., BEVERLY.

POST-PARTUM hæmorrhage, with its sudden emergencies and its instant demand for energetic treatment, is a subject of great importance to every general practitioner, and particularly so in connection with the question of treatment by means of intra-uterine injections, a practice which is becoming quite common, but the merits of which are still *sub judice*. Of the efficacy of intra-uterine irritant astringent injections there is no doubt; it is the danger attaching to the practice which I shall allude to especially. It is a generally conceded fact that injections into the uterus, in any condition of that organ, are dangerous. Penetration of the fluid through the Fallopian tubes, even when every precaution has been taken by experienced operators to insure the return of the injection through the dilated cervix, has been the cause of so many evil results that Dr. Barnes says, "I rarely employ them now except in urgent danger from menorrhagia." Dr. J. Whitehead² states that "it is evident that fluid injected within the uterine cavity, *without force* and in small quantity, may mount by ciliary action through the Fallopian tubes into the peritoneal cavity with great quickness." Dr. Simpson, in his *Diseases of Women*, says, "Never think or dream of throwing liquids into the interior of the uterus by means of any injecting apparatus, for severe and fatal inflammations are very likely to ensue. Such a result may perhaps be caused by the fluid running along one or other patent Fallopian tube, and escaping into the peritoneum; more probably it may be due to laceration of the mucous membrane and entrance of the fluid into one of the uterine veins." Dr. T. G. Thomas (*Diseases of Women*) says "there can be little doubt" that this accident may occur, and he alludes to a fatal case mentioned by Von Haselberg, where, after an injection of an iron solution, "the metal iron was detected by chemical tests in one tube." If the danger of injections penetrating the tubes be so manifest in the non-gravid uterus,

¹ Read before the Massachusetts Medical Society and recommended for publication in the JOURNAL.

² British Medical Journal, 1873.

it is obviously greater in the relaxed post-partum uterus, when, if the syringe be carried directly to the fundus, as Dr. Barnes directs, and the injection is made slowly, the speedy exit of the fluid, which safety demands, is interfered with by the horizontal position of the woman and the blocking up of the uterine cavity by clots. The *British Medical Examiner*, March 15, 1874, contains a report of a case which is conclusive evidence of the risk of penetrating the tubes. In this instance injection of a solution of perchloride of iron was followed by death in thirty hours, the autopsy revealing an ink-black clot in the right Fallopian tube and adjacent peritoneal surface, with unmistakable signs of inflammation. Even a vaginal injection may cause a like disastrous result, as is shown by a case which Dr. T. More Madden reported in 1875, where metro-peritonitis occurred eighteen days after delivery, and was caused, evidently, by the astringent injection finding its way into the uterus and through the Fallopian tubes into the peritoneum. The absorption of fluids by the lymphatics with which the mucous membrane of the uterus is supplied, and their conveyance by the abdominal lymphatic chain to the peritoneum, is also a recognized source of danger. The experiments of Klemm upon the cadaver showed that sometimes blue ink injected into the uterus with only moderate force found its way into the venous system and broad ligaments without any apparent laceration of surface. It is the possibility of such accidents that leads Playfair to say, "The evidence is overwhelming that intra-uterine injections, however carefully practiced and however small in amount, are apt to be followed by very alarming if not dangerous symptoms." This, said of injections into the non-puerperal uterus, applies with still greater force to the uterus after delivery.

Alarming and fatal results from the entrance of air into the circulation have sometimes followed uterine injections. The sinuses in the relaxed uterus, standing open like the veins in bone, and, if Dr. Barnes's supposition is correct, possessing, by their nearly emptied condition consequent upon severe hæmorrhage, "a certain suction action," afford dangerous possibility of the passage of air to the heart through the valveless pelvic veins and the vena cava.

Dr. Barnes relates a case in which death occurred "suddenly, soon after the injection, with symptoms resembling those consequent upon air entering the circulation." Dr. Olshausen reported a case (1864) in which a vaginal douche of water was used to expedite a lingering labor; after eight minutes' use the patient began to complain of oppression, and in a minute, at most, was dead. The autopsy showed air bubbles in the uterine sinuses, the right broad ligament, the vena cava ascendens, which was enormously distended, and in the right cardiac ventricle. It was concluded in this case that the tube of the syringe had entered the uterine cavity, that the force of the injection

had separated the placenta, and that air taken up with the water had been driven into the uterine veins. Schroeder, in his work on Midwifery, says, "It is unmistakably shown that death may take place when by means of an injection apparatus air is forced with the water into the uterus under a certain pressure;" and where injections are used in parturient or lying-in women, he emphasizes the necessity of *every bubble* of air being previously removed from the syringe, a warning somewhat difficult to heed at the time of one of those frightful hæmorrhages which demoralize patient and friends, when, as frequently happens, the physician may have no competent assistant, and the woman is in the dangerously restless condition that often accompanies flooding.

Stimulated by Dr. Barnes's example and teachings, there has arisen among many eminent obstetricians an enthusiastic advocacy of the use of injections of the per-salts of iron in post-partum hæmorrhage, which have been used so frequently that we are compelled to one of two conclusions: either that there has been an alarming increase of emergencies demanding such heroic treatment, or that the injections have sometimes been used unnecessarily. That the use of iron injections is attended with special risk is evident from the statement of Dr. Ringland before the Dublin Obstetrical Society, that out of forty-five cases of post-partum hæmorrhage treated by the perchloride of iron, eleven terminated fatally, an undeniably large proportion of deaths from this cause. In a recent discussion before the Obstetrical Society of Edinburgh, Dr. Matthews Duncan affirmed that, "unfortunately for the boastings, women had died from post-partum hæmorrhage apparently more than ever, and even when the vaunted remedies of perchloride of iron and transfusion — both declared to be inestimable and sovereign — had been employed with skill."

One of the risks which must always attend the introduction of the salts of iron into the uterine cavity after delivery is that the coagulating effect may not be limited by the uterine walls, but may extend to the venous circulation, with possible death from embolism. Sudden death has followed injections of solution of iron into nævi, accounted for by post-mortem evidence of coagulated blood in the vessels and heart; is it more strange that the iron can reach the heart by way of the valveless uterine and pelvic veins and the vena cava? Dr. Barnes does not consider the two conditions analogous, but they are at least very similar: the iron is introduced into the circulation, though in both cases it is intended that there shall be a local coagulation only. Playfair's explanation of the action of the iron, "We now have abandoned contraction as a hæmostatic, and are trusting to thrombosis," implies, although it does not verbally recognize, the danger of embolism. Death has occasionally followed suddenly from this cause. Dr. Cederskiöld re-

ported to the Swedish Medical Society a case where the patient died before the injection (one to seven ferri perchl.) was completed. The autopsy showed dark-brown blood clots in all the vessels from the uterus to the heart, as well as in the peritoneal cavity. Moreover, in this case, the vessels were filled with air bubbles, making an instructive example of the danger of penetration of the tubes, entrance of air into the circulation, and chemical destruction of the character of the blood in the venous system. An instance of the danger attending the use of iron solutions in the surgery of the uterus is given by Dr. Spencer Wells, in the London *Medical Times*, 1862: "Serious cardiac and pulmonary symptoms, with the almost instantaneous appearance of a rash like erysipelas or scarlatina all over the body, followed the application of tincture of perchloride of iron to a cauliflower excrescence of the uterus; in this case clots of various sizes were found in almost every vessel examined after death." In the London *Lancet*, 1867, Dr. Playfair reports three cases in which symptoms of pulmonary embolism appeared after labor, the patients all recovering. In two of these cases there was post-partum hæmorrhage, in one of which iron was injected. In his remarks upon these cases he says, "In two of the three there was post-partum hæmorrhage, and a tendency therefore to coagulation from the altered condition of the blood," which condition he considers to depend upon excess of fibrine favoring spontaneous thrombosis; he makes no mention, however, of the iron injection as a probable cause of the embolism, which is somewhat singular when he explicitly states that its efficacy consists in its plugging the sinuses with thrombi. Had he called attention to this fact in his remarks upon the three cases of embolism, it would have rendered still more forcible his conclusion that "the main element in the treatment of such cases is the most rigid rest."

An accident liable to follow iron injections, and one that will serve more than anything else to deter physicians from using this treatment, is the occurrence of septicæmia. Dr. Sims recently stated that in his opinion the advocates of the practice in London are beginning to be afraid of the injections for this reason. The septicæmic symptoms are the result of the retention and decomposition *in utero* of the hard clots formed by the blood and the solution of iron. Dr. Emmet writes, "Under no consideration would I inject persulphate of iron into a cavity to arrest hæmorrhage. It possesses in itself no styptic properties, and only coagulates a mass of blood, which then acts mechanically. The blood is so destroyed in character by contact with the persulphate that it undergoes decomposition within a few hours. From this source the patient frequently becomes blood poisoned before any septic element has been generated elsewhere." Dr. Thomas considers the danger of septicæmia from this source as "very grave." Dr. Lusk lost a patient

from this cause, concerning which he writes me that it has warned him never to use a remedy to coagulate the blood directly in such cases. The cases reported by Dr. Snow Beck prove to any but prejudiced observers that the septicæmia which caused the death of the patients was due to the effects of the solution of iron. Reports of fatalities asserted to be due to iron injections have been set aside as not proved by enthusiastic advocates of the practice, who have affirmed that septicæmia, metro-peritonitis, pyæmia, etc., are just as likely to follow post-partum hæmorrhage treated by what are called "ordinary means." Were this true it must be considered bad practice not to use the iron injection upon the immediate occurrence of hæmorrhage, before excessive loss of blood shall of itself predispose to subsequent inflammation and blood poisoning. The postponement of this treatment until other means have been tried in vain is a tacit confession that the risks alluded to *are* increased by the effects of the iron. Dr. Barker mentions first, among the causes of septicæmia, the decomposition and absorption of uterine clots, and with regard to peritonitis he says, "It has long been settled by the best pathologists that peritonitis is rarely a spontaneous and primitive disease. It is generally associated with some inflammation either of the uterus, the ovaries, the Fallopian tubes, or the broad ligaments." It is manifest that inflammation of these parts is less liable to occur spontaneously than as a consequence of the hard, irritating clots formed by the iron. In any condition of the uterus a dangerous application, the dangers attending its use are greatly increased by postponing it until the contractile power of the uterus is lost and all the conditions for introduction of the iron into the veins or through the Fallopian tubes into the peritoneal cavity, with possible septicæmia as a result, are in greatest force. Even those authorities who sanction the use of iron injections advise subsequent measures to reduce to a minimum the possibility of danger from decomposition of uterine clots. On the same page in his work on Midwifery, Dr. Playfair reassures skeptics by asserting that no one has yet brought forward any cases in which the evil effects of injections of perchloride of iron have been conclusively proved, but a little lower down he refers to a case of his own, in which septicæmia followed the use of an injection; upon consideration of which case he advises the use of antiseptic injections to prevent the decomposition of the retained clots. Dr. Chadwick writes that it is his "belief that many of the fatal results observed after injections of iron might be prevented by subsequent disinfecting injections." To prevent infection the antiseptic must be used within a few hours after the iron injection, must be frequently repeated, and, with however much care applied, may fail to reach the thrombi which Dr. Playfair supposes to fill the sinuses, in which event complete disinfection is not secured. Theoretically the use of subsequent antiseptic

tic injections might be rendered needless by combining with the solution of iron a proportion of salicylic acid, which Bartholow asserts to have "the power to prevent fermentations and putrefactive decomposition," and which, also, judging from the sharp temporary irritation I have seen to follow its application to the cervix uteri, might increase the excito-motor action of the injection. That iron injections almost invariably and immediately check post-partum hæmorrhage is undeniable, but it is by no means proved that their styptic or coagulating property, upon which their value as hæmostatics has been asserted principally to depend, is the most important factor in their action. Dr. Barnes states that the blood is instantly seized and coagulated at the mouths of the vessels, and also that the inner surface of the uterus is constricted by the action of the iron, this constriction being a further aid in closing the vessels. I think that the constricting action alone, supposing contraction does not follow the injection, is the essential factor in checking the flow, and that coagulation alone could not accomplish that result unless the solution penetrate the sinuses deeply. The effort to stop a bleeding in other parts of the body—for example, from a tooth socket—is sometimes unavailing, even though the undiluted tincture is used and the cavity plugged; the sinuses, kept open by uterine relaxation, offer an analogous condition, and it is unreasonable to suppose that a solution of iron, of which nine tenths are water, if Dr. Barnes's directions are followed, can check by mere coagulation a profuse post-partum hæmorrhage. If this view be correct, the coagulating property is an unnecessary element of danger, and simply a disadvantage which should be overcome by substituting for the iron an agent of equal astringent power, one that does not coagulate the blood and that is equally effective in exciting uterine contraction, which is the only safe hæmostatic. Many obstetricians claim these advantages for iodine. Its use as a remedy for post-partum hæmorrhage was first advocated by M. Dupeirris, of Havana, in the *American Medico-Chirurgical Magazine*, 1857, who, Playfair states in his work on Midwifery, has reported twenty-four cases in which he applied it with immediately successful result and no subsequent ill effects. Dr. Emmet states that he has used Churchill's tincture of iodine to maintain uterine contraction after the removal of fibroids for more than ten years, and its action is certain to arrest bleeding unless there exist some impediment to the proper contraction of the uterus; he also considers it a most valuable antiseptic. He writes me that for years past he has advised the use of hot-water injections and Churchill's iodine in post-partum hæmorrhage, and that both have been used in New York at his suggestion. Dr. Barker writes that he has used iodine twice with satisfactory results; Dr. Peaslee, that he prefers iodine to iron, "as being quite as efficacious and not so objectionable; the after-effects of iron are often bad, those of

iodine not so, as far as I know." Dr. T. G. Harrison reports a case of hæmorrhage successfully treated by injecting two drachms of Churchill's iodine. At a meeting of the American Medical Association, 1876, Dr. Larrabee, of Kentucky, reported that iodine was much used in Louisville in such cases. Dr. Wilson, of Pennsylvania, in a case of irrepressible hæmorrhage that continued several days after delivery, had at last resorted to tincture of iodine. The uterus, although only three or four drops were injected, at once contracted and remained so. In a valuable paper entitled *Injections of Tincture of Iodine into the Cavity of the Uterus after Delivery*, read in 1874 before the New York Medical Society, Dr. J. D. Trask makes the following statements: "As an excito-motor agent iodine is probably at least equally good [as iron], while incapable of causing the formation of dangerous thrombi in the uterine vessels. . . . The application of iodine to the lining membrane of the uterus is probably of all things the surest means of counteracting a tendency to absorption of septic matter after delivery. Since adopting the practice of injecting iodine after operations upon the interior of the uterus, Dr. Emmet has not encountered a single case of septicæmia." Dr. Trask disavows the position of claiming positively for iodine a superiority over iron, as he thinks that in extremely rare instances it *may* be impossible to excite uterine contraction, in which cases the iron is theoretically more powerful; but my investigation does not show me any cases in which the iodine failed to induce contraction. . That iodine is a direct excitor of muscular action is shown by its effect upon the non-gravid uterus. In the *Lancet* for January 6, 1866, Dr. Murray states that "the muscular contraction that follows this injection is remarkable, the tube carrying the iodine being tightly grasped so that its reintroduction at the time is extremely difficult." Drs. Barker, Emmet, Wilson, and Harrison have used the undiluted tincture, a practice much more likely to be followed by immediate contraction than either diluted iodine or iron. Incapable of causing the formation of thrombi, and therefore not demanding the use of subsequent disinfecting injections, requiring but a small quantity if used in full strength, hence reducing the danger of penetrating the tubes and sinuses, we should be justified in using iodine much earlier than iron, thus preventing absolute loss of contractile power and being saved the necessity of resorting to a remedy of *possibly* greater power and *certainly* greater danger.

Of injections of cold water I will only say that, though widely recommended, they are not to be depended on if postponed until great exhaustion occur; if not followed by immediate contraction the prolonged use, by lowering vitality, does much harm. Of hot-water injections Dr. Emmet asserts that "very hot water is a prompt excitor of uterine action." Dr. Windelband¹ states that he has used injections of

¹ British Medical Journal, 1875.

water at about 100° F. in twenty-one cases of abortion, in cases of severe hæmorrhage from placenta prævia, in post-partum hæmorrhage, etc., and he is convinced that the hot water exerts a far more energetic action on the muscular structure of the uterus than cold water either alone or with astringent remedies in solution, and he has never found any disadvantageous results.

Injections of matico, vinegar, lemon juice, and other astringent and irritating substances have been brought into notice as invaluable in treating post-partum hæmorrhage, but certain strictures apply to all: entrance of air into the circulation, penetration of the tubes and sinuses, with possible systemic blood poisoning as results, attach to each. Because the use of intra-uterine injections in post-partum hæmorrhage, especially of those containing iron, is becoming common, I have deemed it not inopportune, by setting forth the views of prominent obstetricians, to call attention to the dangers of the practice rather than the advantages, for heroic measures sanctioned and lauded by high authorities are sometimes blindly resorted to by physicians of more limited experience. That such injections are sometimes the only hope of safety in post-partum hæmorrhage may not be gainsaid, but it should also be kept in mind that dependence upon such remedies causes too ready resort to them and, more than that, the neglect of the most important part of the treatment, *prevention*. Dr. Trask says, very justly, in alluding to the statement which Dr. Hicks made with regard to having employed the iron injections "a great number of times," "No matter how extensive a man's practice may be, he can scarcely have met with a great number of cases in which the conditions are those which Dr. Barnes prescribes," namely, absolute loss of contractile power. That cases of alarming flooding are not checked before the necessity arises for styptic injections is sometimes the physician's fault, for it is his duty, not the patient's, to see that the means for meeting such an emergency are always within reach. His obstetric bag should contain not only his forceps and his favorite styptic, but also ergotine, brandy, ammonia, morphia, ether, hypodermic syringe, and hand-atomizer. If none of these are needed for ninety-nine cases out of one hundred, in the hundredth case the trouble of carrying them will be amply repaid by having them at hand when needed, and the physician may be spared the unsatisfactory reminiscence of a case of flooding which resulted fatally because the remedy which was sent for arrived too late. I have mentioned ether and an atomizer as necessary adjuvants because several cases have been reported (one by Dr. Hicks and another in the *Medical Record*, April 7, 1877) in which ether spray applied to the hypogastrium was followed by immediate uterine contraction. This method of exciting reflex action possesses obvious advantages over the application of ice. From a consideration of the fact that in Dr. Wilson's case it was nec-

essary to inject a very few drops only of tincture of iodine, we may conclude that the same effect would follow the same remedy applied upon a sponge or swab, thus substituting a safe for a dangerous method. The solution of iron may be employed in the same way or in a solid form, as has been done by Dr. Ringland, with results as immediately successful as those attending iron injections. Of this method Dr. J. More Madden writes me, "I have also, in a few instances, employed the solid perchloride of iron with very satisfactory results, but whether this was altogether due to the styptic I much doubt, as probably the introduction of the hand containing the salts into the uterine cavity had no small share in exciting the uterine contraction by which the hæmorrhage was arrested," certainly a strong argument against the hasty use of intra-uterine injections.

Women who have suffered from hæmorrhage in previous confinements, those who are delivered by forceps, especially when under the influence of an anæsthetic, those who suffer from tedious labor dependent upon any debilitating cause, and those whose labors are exceptionally rapid, with very short intervals between the pains, are especially liable to post-partum hæmorrhage; in all these cases anticipating measures are of great importance, and as it is never superfluous to reiterate useful directions, I will conclude by calling attention to several important points: In a case in which hæmorrhage occurs it is well to rupture the membranes as soon as the os is fully dilated, as Dr. McClinck recommended; to inject subcutaneously a dose of ergotine as soon as the head presses upon the perinæum (ergot by the stomach is not so sure to act, and is useless if the hæmorrhage occur immediately upon the birth of the child); always, and above all, to follow down the fundus with a firm hand which shall not be removed, unless it can be replaced by an equally trustworthy one, until firm contraction has existed for at least half an hour after complete delivery. I believe that in very many cases the binder is used too early, and that however scientifically applied it cannot exert compression as completely as does the hand. It cannot prevent uterine relaxation, and its early application over an imperfectly contracted uterus merely gives the physician a feeling of security which has no better foundation than that which the ostrich is supposed to have when it thrusts its head under the sand to escape danger; he *hopes* he is all right, but he lacks common sense. The emphatic direction of Dr. Meigs, in lecturing on post-partum hæmorrhage, was, "Turn out the clots." If this were done thoroughly upon the immediate occurrence of flooding, and at the same time ether spray applied to the abdomen, the emergencies demanding irritant uterine injections would be exceedingly rare.

REPORT OF TWO CASES OF AMPUTATION THROUGH THE KNEE-JOINT, WITH REMARKS.

BY GEORGE A. MURSICK, M. D., NYACK, N. Y.

CASE I. O. S., aged fifteen years, a well-developed mulatto boy, in December, 1873, fell, while getting from a wagon which was in motion, and struck the upper part of his left leg against the iron tire of the wheel. The blow was followed by an inflammation of an acute character which terminated in an abscess of the head of the tibia. This had opened externally. I first saw him in June, 1874, when I found the upper end of the bone much enlarged. The leg was curved inward so much that when he stood erect the left foot crossed the right ankle, and did not touch the ground. There were several openings on the anterior upper half of the leg, from which pus flowed freely; the skin was thin and brown in color, and the periosteum was separated from the anterior upper half of the bone. A probe passed through the upper opening an inch and a half into the bone, upwards and backwards towards the joint, which contained a moderate amount of fluid.

He does not remember when the abscess burst, but thinks it was some three or four months since.

June 15th. His general condition was good, but the bone was so extensively diseased that I thought it best to amputate the limb through the knee-joint, which I did by the circular method. The patella had been displaced inward by the curving of the limb, and did not fit well between the condyles of the femur, so I removed it.

He suffered but little constitutional disturbance after the operation. Before it his pulse was 78, and after it 90; and it fluctuated for several days between 90 and 100. At no time after it did the temperature rise above 100°. The stump healed readily; the ligatures came away June 22d, and on the 28th he was walking about on crutches.

During the after-dressing of the stump care was taken to draw the edges of the flap well backward, so that when the wound healed the cicatrix would be along the posterior border of the condyles of the femur, where it has remained to the present time.

Examination of the limb after removal showed the periosteum to be extensively separated from the anterior surface of the bone, which was much roughened and bathed in pus. Upon section of the bone with a saw the abscess was found to be very large; it extended upward nearly to the articular cartilage. The effusion into the joint was found to be synovial in character. Without going farther into the details of its pathological appearance, I will state that it appeared to me to bear a close relation to, if it was not identical with, what Markoe¹ describes as "chronic sinuous abscess of bone." The disease was too far ad-

¹ Diseases of the Bones, page 33, et seq.

vanced to follow the treatment advised by him, namely, the chiseling out of the whole of the diseased bone. The bone after maceration was deposited in the Army Medical Museum at Washington; specimen No. 6659, Surgical Section.

CASE II. Fred Q., aged eleven years, while running behind a wagon, May 23, 1876, got his right leg caught between the spokes of the wheel which was revolving rapidly, and received a compound comminuted fracture of the tibia and fibula, with extensive laceration of the muscles. The periosteum was stripped clean from the bones for about five inches. This was probably done by the twisting of the leg in the rapidly revolving wheel.

At three o'clock P. M., about four hours after the reception of the injury, I saw him in consultation with his attending physician, Dr. C. H. Masten. He had in a great measure recovered from the shock of the injury, and was lying upon his bed apparently unconcerned about it. There being no hope of saving the leg, I amputated it through the knee-joint, by the circular method, making the incision in this case about three inches below the lower border of the patella, which *was not* removed.

Everything did well after the operation. He suffered little or no constitutional irritation; the stump healed rapidly; the ligatures came away in due time, and in two weeks after he was out-doors on crutches.

In dressing the wound care was taken, as in the preceding case, to keep the line of cicatrix well back from the face of the stump, where it has since remained, so as to avoid pressure upon it, should he wear an artificial limb.

Remarks: It will be noticed that both subjects of this operation were boys, and that one amputation was done for chronic disease, the other for an acute traumatic injury. Both were done by the circular method. In one case the patella was removed; in the other it was left *in situ*. Little or no constitutional disturbance followed either operation, and the stumps healed rapidly. They are broad and firm, and afford an excellent support for an artificial limb, far superior to any thigh stump, or even to the knee after amputation of the leg at the point of election. I do not find that there is any difference in the utility of the stump, whether the patella be retained or removed. The danger to life is much less than amputation through the thigh; and the liability to osteomyelitis and pyæmia, with the consequent fatality, is a great deal less than after amputation through the continuity of the femur, or through the tibia and fibula. In view of these facts, after considerable personal experience in, and after extended observation of, amputations through the continuity of long bones, I am led to the conviction that — other things being equal — all amputations in the continuity of long bones in the vicinity of joints should be avoided, where

it is possible to disarticulate from the lower aspect of the articulation, whether in the lower or upper extremity, with one exception, namely, that of the *elbow-joint*. This exception is apparent for very obvious reasons.

To the elaborate papers of Markoe, in the *New York Medical Journal* for March, 1868, and of Brinton, in the *American Journal of the Medical Sciences* for April, 1868, the reader is referred for much valuable information concerning this amputation. Their able discussion of this subject has left but little to be said by subsequent writers; but the reports of additional cases will tend to confirm or modify their conclusions.



ANNUAL REPORT FOR HAMPDEN DISTRICT.¹

F. W. CHAPIN, M. D., SPRINGFIELD, REPORTER.

THE past year has been one of unexampled health in Hampden County. Within the memory of the oldest practitioners there has never been so little call for medical aid.

Among the comparatively few cases observed by our physicians during the past year the following are of some interest:—

CASE I. occurred in the practice of Dr. P. LeB. Stickney, of Springfield. William S., aged nineteen, took up a loaded gun by the muzzle. A large piece of the inner side of the right fore-arm was blown away, including a considerable part of the muscles arising from the inner condyle. A small opening was made into the elbow-joint, exposing a portion of the articular cartilage about an eighth of an inch square. A small piece of the ulna, just below the joint, was torn off, and the whole wound was blackened and filled with powder. It was feared that inflammation of the joint would follow and terminate in ankylosis. A poultice was applied for two days, hastening the separation of the superficial portions which had been blackened and destroyed by the explosion. The wound was then dressed with sheet lint kept wet with a solution of carbolic acid, and covered with oil-silk. The healing progressed rapidly. For some time the joint remained open, and the patient, by flexing and extending the fore-arm, could work out clear synovial fluid through the opening. By and by the granulations shot up and covered in the opening. A portion of the ulnar nerve, about two inches in length, was blown away with the other tissue, and the upper end was exposed for some time, giving great pain when anything touched it.

Cicatrizization of the wound is now (June 1) complete. Sensation is abolished in the fingers supplied by the ulnar nerve. Flexion of fore-arm, wrist, and fingers is somewhat impaired.

CASE II. was under the care of Dr. John Hooker, of Springfield.

¹ Read before the Massachusetts Medical Society, June 13, 1877.

Michael H., aged twenty-two, while standing on a truck fell backwards, striking the back of the neck on a bar of iron. On examination the spinous processes of the fifth and sixth cervical vertebræ were found to be broken. There was complete paralysis of the lower extremities, bladder, and rectum, and almost complete paralysis of the upper extremities. The head was fixed. The patient was taken to the almshouse and put on his back. On the fourth day an extension apparatus (weight and pulley) was adjusted to the head by means of two broad bands of webbing passing under the chin and occiput. To this a weight of twenty-eight pounds was suspended. During the third and fourth days the patient took forty-eight grains of calomel. On the fifth day, after an injection, he had a copious discharge from the bowels, and passed water. He began to improve slowly from this time, gradually regaining his natural power over the paralyzed members. The extension apparatus was kept on for six weeks, the weight being gradually lessened after the third week, and being taken off occasionally to rest the patient, an hour or so at a time. The bowels were moved twice a week with a mercurial cathartic. At the end of six weeks the patient could sit in a chair. After eight weeks he could bear his weight on his feet. In twelve weeks he walked a little. In five months he was out in the street, walking with an uncertain, straddling gait, as if he feared falling. In twelve months he resumed his occupation, that of painting.

The exact form of injury in this case was, of course, not discoverable, but it was thought there was probably some displacement or fracture of the vertebræ, together with extravasation of blood about the cord.

CASE III. is that of a young married woman who applied to one of the members of our society for something to bring on her courses, as she had passed her monthly period several days. The doctor, for obvious reasons, advised her to take no such measures. About seven weeks later he was called to see her. It was in the afternoon. He found her pale and weak, suffering severe abdominal pain and distress, with slight hæmorrhage from the vagina. She supposed she was about three months pregnant; denied having miscarried, and said that no abortion had been attempted. Her story was that three days before she had been seized, while driving, with hæmorrhage from the vagina and violent pain in the abdomen. From that time to the present attack she had suffered moderate hæmorrhage, but no pain nor distress. Dover's powder and brandy were ordered. The next morning at ten o'clock she appeared much better. The hæmorrhage was slight. The doctor was in doubt whether she was suffering from menorrhagia or was having a miscarriage. He left her comfortable. At two P. M. he was called in haste. The patient was in terrible distress all over, rolling from side to side, almost pulseless, very pallid, but conscious and able to answer questions. In the act of answering one she died.

Autopsy, seventy-two hours after death. In the abdominal and pelvic cavities large masses of clotted blood were found, not less than two pounds in weight. On removing this everything appeared normal, except that the pelvic organs were stained from contact with the blood. Vagina healthy. Uterus enlarged to capacity for a three months' fœtus. No signs of inflammation. The cavity held a dark clot about two ounces in weight. A portion of the wall of the organ showed marks of recent placental attachment. On the upper wall of the left Fallopian tube, about half an inch from its junction with the uterus, was found a slit-shaped opening capable of admitting an instrument three sixteenths of an inch in diameter. The opinion of the gentlemen present was that the opening had been made with a slender instrument introduced for the purpose of inducing an abortion; that the patient had died from uterine hæmorrhage, a large part of the blood having passed into the abdominal cavity through the opening in the Fallopian tube.

CASE IV. is in some respects similar to the last. A young unmarried woman, a patient of Dr. L. S. Brooks, died with symptoms of metritis and septicæmia. Circumstances seemed to involve one or two well-known abortionists in the case, and an autopsy was ordered by the coroner. A small opening was found through the uterine wall into the pelvic cavity, at the junction of the neck with the body. There was intense congestion of the ovaries and pelvic peritoneum. Pus was found in the Fallopian tubes and uterine sinuses. The uterus was considerably enlarged. Here, again, some slender instrument was probably used, or, rather, misused.

CASE V. A woman, patient of Dr. George C. McClean, miscarried without apparent cause, about the fourth month. The fœtus was expelled enveloped in the membranes, which were intact and completely covered with a thick, soft membrane, resembling the decidua reflexa. The fœtus is about six inches long. The thumbs and little fingers are very large, proportionately. The other fingers in each hand are twisted together apparently, and terminate in a fibrous cord, an inch in length, which connects the hands together. One hand is also attached to the inner surface of the membranes by a cord two and a half inches in length. The small toes of one foot have an appearance similar to that of the hands.

CASE VI. Dr. McClean also reports two cases of separation of the epiphysis of the internal condyle of the humerus in boys aged seven and eleven, respectively. In the latter case the cause of the accident was muscular action; the boy threw a ball with all his might and immediately felt pain in the elbow. Examination revealed the injury already mentioned. The doctor thinks the sudden and powerful action of the pronator radii teres, in the act of throwing, caused the separation.

CASE VII., is one of embolism of the extremities. William F. H., aged fifty-two years, married, by occupation a carpenter. Patient never was very rugged; had typhoid fever at the age of twenty-one, and three severe attacks of rheumatic fever between the ages of twenty-five and thirty-five. Otherwise he was always well till the present trouble began, in the spring of 1875. He was taken one morning, while dressing, with a cramp in the left arm. Soon the whole arm was absolutely powerless and perfectly white and cold. Dr. E. M. Pease, the family physician, being out of town, the patient awaited his return, his friends employing the intervening time in rubbing the arm briskly. At the end of a few hours they had succeeded in restoring color, warmth, and power to the arm as far as the wrist; the hand remained numb, white, and cold. The doctor arrived at the end of six hours and began at once the use of the faradic current on the hand. Gradually the member swelled up and became "as black as a stove," and very painful. It remained so for several days. Attempts were made to reduce the swelling by means of poulticing and sweating the hand, and finally by lancing. It gradually improved after a few days; the faradic current was resumed, and in two months the patient went to work, though the hand was stiff and troublesome for several months. It is still a little stiff and weak.

On February 6, 1877, he was taken again with cramp in the same hand, but an hour or two of faradism and rubbing caused the symptoms to vanish.

February 9, 1877, he was attacked with severe cramp along the outside of the left leg. The pain increased rapidly, and in about one minute the leg felt as if it were screwed up in a vise; it turned white from about the middle downwards, and cold, as did the foot also. Dr. Pease worked two hours with a faradic battery, and finally restored the circulation so that the leg resumed its natural color and warmth. There was some lameness, but everything looked favorable. In a day or two, however, the foot began to be painful and to swell and assume a purplish color. For two or three days these symptoms were made to disappear by rubbing and by means of faradism, but at the end of that time the circulation became permanently impeded. All the symptoms of gangrene supervened slowly; the line of demarcation formed in about eight weeks, at the ankle-joint. A slough of considerable size also occurred on the outside of the leg just above the ankle, and through the opening thus made large pieces of tendon and muscle sloughed out.

On May 10, 1877, Dr. P. LeB. Stickney, assisted by the writer, removed the foot, Dr. Pease having gone to the Micronesian Islands. At the present date the stump looks well, granulations having partly covered the ends of the bones, and the opening above the end having partly closed up.

obscurely; while the olivary is crowded upwards and backwards behind the arch, carrying with it a strip from the posteroinferior portion of the body of the tooth, and forming a projection into the spinal canal. Between this projection and the posterior wall of the canal the spinal cord was pushed. The cord makes a beautiful specimen, distinctly showing the portion which suffered from the pressure. This portion is about six inches in length and much thinned, allowing light to pass through it readily.

RECENT PROGRESS IN PHYSIOLOGY.

BY HENRY E. HOWARTH, M. D.

VASO-MOTOR MECHANISM.

Cannon's conception of the vaso-motor mechanism as consisting of a terminal apparatus and two sorts of nerve fibres is the same that has, with various modifications, been adopted by nearly all recent observers. Thus Ruzicka,¹ as the result of his experiments on curarized frogs, concludes that the vaso-motor apparatus consists of

I. Local ganglia presiding over the rhythmical contraction of the vessels.

II. Spinal vaso-constrictor fibres going directly to the arteries.

III. Spinal nerve fibres inhibiting the local ganglia.

IV. Inhibitory fibres from the skin to the neighboring ganglia.

A local irritation of the skin may cause either vasenlar dilatation through IV, or vasenlar constriction through II. Which result is produced depends upon the locality and the intensity of the irritation. The nearer the irritated part to the blood-vessels under observation, and the stronger the stimulus, the greater is the tendency to the production of a vasenlar dilatation instead of a constriction.

Maisin and Valmier² hold essentially the same views, except that they regard the spinal vaso-constrictor fibres (II.) as acting through the local ganglia instead of directly on the vessels, and they admit the existence of exciting as well as inhibitory fibres running from the skin to the neighboring ganglia.

All recent investigators unite in assuming the existence of nerve cells in or near the vasenlar walls to account for the recovery of their condition of tonic contraction after section of the spinal nerves, but it should be borne in mind that histologists have as yet only rarely succeeded in bringing anatomical evidence in support of this assumption.

Inasmuch, however, as we find in the walls of the small intestine a

¹ Concluded from page 53.

² Pflüger's Archiv, vii. 207.

³ *Leco-Révo.*

plus of nerve cells and fibres which seems to preside over the movements of that organ, and to be subjected to both excitation and inhibition through nerve fibres connecting it with the cerebro-spinal centres, it is not improbable that the blood-vessels may be subjected to similar control.

Ostromoff's observations have shown that this peripheric vaso-motor apparatus, whatever may be its anatomical structure, is able to hold the blood-vessels in a state of tonic contraction after division of the spinal nerves. It was even found that when the blood tension was increased twofold its normal amount by irritation of the splanchnic nerves of a dog, one of whose sciatic nerves had been divided, the temperature rose a little in the paralyzed as in the normal limb, showing that the activity of the vascular walls must be independent of influences coming from the cerebro-spinal centres. If, however, the experiment was many times repeated it was found that finally stimulation of the splanchnic nerves caused a great dilatation of the vessels in the paralyzed foot, and but little or none in those of the normal limb. Hence it must be concluded that vessels which are still in connection with the central nervous system are better able to resist the dilating effect of increased blood tension because they are less easily fatigued.

The theory that the spinal nerves contain two anatomically distinct sets of nerve fibres has been adopted by nearly all recent investigators to explain the fact that stimulation of these nerves may be followed either by vascular constriction or dilatation. Onimus¹ has, however, been led to the conclusion that inhibitory phenomena resulting from the stimulation of a nerve do not necessarily prove the existence of special inhibitory fibres in that nerve. He found, in the first place, that a simple moderate irritation of the vagus, instead of arresting the heart, produced a contraction of that organ;² also that, when in a curarized animal the heart beats had been reduced to forty or fifty per minute, it was possible, by irritating the vagus or the heart itself with induction shocks at the rate of sixty per minute, to compel the heart to contract synchronously with the electrical stimulation. Analogous observations were made also on the intestines. Here it was found that ordinary galvanic stimulation arrested the peristaltic movements in the neighborhood of the part irritated, causing only a local contraction of the muscles directly between the electrodes, while a series of induction shocks following each other at about the rate of the normal peristaltic contractions (fifteen to eighteen per minute) increased the intensity of these movements.

Onimus therefore concludes that when electrical irritations are ap-

¹ *Comptes rendus des Séances de l'Académie des Sciences.* November 20, 1876. Tome xxxiii., page 588.

² It is possible, however, as shown by Donders (*Pflüger's Archiv*, i. 331), to produce an inhibitory effect upon the heart by irritating the vagus with a single induction shock.

eleventh; while the eleventh is crowded upwards and backwards behind the tenth, carrying with it a chip from the postero-inferior portion of the body of the tenth, and forming a projection into the spinal canal. Between this projection and the posterior wall of the canal the spinal cord was pinched. The cord makes a beautiful specimen, distinctly showing the portion which suffered from the pressure. This portion is about an inch in length and much thinned, allowing light to pass through it readily.

RECENT PROGRESS IN PHYSIOLOGY.¹

BY HENRY P. BOWDITCH, M. D.

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² Pflüger's Archiv, xi. 207.

³ Loco citato.

plexus of nerve cells and fibres which seems to preside over the movements of that organ, and to be subjected to both excitation and inhibition through nerve fibres connecting it with the cerebro-spinal centres, it is not improbable that the blood-vessels may be subjected to similar control.

Ostroumoff's observations have shown that this peripheric vaso-motor apparatus, whatever may be its anatomical structure, is able to hold the blood-vessels in a state of tonic contraction after division of the spinal nerves. It was even found that when the blood tension was increased to double its normal amount by irritation of the splanchnic nerves of a dog, one of whose sciatic nerves had been divided, the temperature rose as little in the paralyzed as in the normal limb, showing that the activity of the vascular walls must be independent of influences coming from the cerebro-spinal centres. If, however, the experiment was many times repeated it was found that finally stimulation of the splanchnic nerves caused a great dilatation of the vessels in the paralyzed foot, and but little or none in those of the normal limb. Hence it must be concluded that vessels which are still in connection with the central nervous system are better able to resist the dilating effect of increased blood tension because they are less easily fatigued.

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plied to a nerve at a rate approaching that at which the impulses follow each other along the nerve in its normal condition, the stimulation produces a state of activity in the organs to which the nerve is distributed, but that when the rate of the irritations differs too widely from that of the normal impulses, a condition of inhibition is brought about. In accordance with this theory the production of vascular dilatation by slow rhythmical irritations of a spinal nerve, as observed by Ostroumoff, depends upon an inhibition of vaso-constrictor fibres.

It will be observed that this theory affords no explanation of the fact that while tetanic stimulation of a freshly cut nerve causes vascular constriction, the same stimulation applied to a nerve several days after its division has the opposite effect. Moreover, the vaso-dilator fibres seem in many cases to run in channels anatomically distinct from those of the vaso-constrictor fibres. For instance, the chorda tympani seems to supply exclusively vaso-dilator and the cervical sympathetic vaso-constrictor fibres to the submaxillary gland and the tongue. To cases of this sort the theory of Onimus is hardly applicable. Even in the spinal nerves the courses of the two sorts of fibres seem, according to recent observations of Stricker,¹ to be to a certain extent distinct. The experiments were made on dogs whose spinal cords had been divided a few days before between the dorsal and lumbar regions, by the intervertebral method of Goltz. After the temperature in the hind limbs had fallen to its normal level, the cord was exposed in the lumbar region and the spinal roots subjected to division and stimulation. It was thus found that mechanical as well as electrical stimulation of the peripheric end of the divided *posterior* roots of the fourth and fifth lumbar nerves caused always an elevation of temperature in the foot of the corresponding side. The same stimulation applied to the anterior roots of the same nerves had no constant effects on the temperature of the foot. The author therefore concludes that some, at least, of the vaso-dilator fibres of the foot have a direct course through the posterior roots of the sciatic nerve. Other vaso-motor fibres were found to leave the cord by the upper lumbar and lower dorsal nerve roots. From the fact that two hours after destruction of the whole spinal cord below the fourth dorsal vertebra section of the sciatic nerve caused an elevation of the temperature of the foot, Stricker concludes that vaso-constrictor fibres leave the cord as high as the fourth dorsal nerve, the supposition that the vascular dilatation following section of the nerve might be produced by a mechanical irritation of the vaso-dilator fibres contained therein (according to Goltz's theory) being disproved by the fact that immediately after the section electrical irritation of the peripheric end of the divided nerve was followed by a distinct vascular constriction.

Stricker's experiments have been repeated and his work criticised by

¹ Wiener Sitzungsberichte, July 20, 1876.

Cossy,¹ who points out that, though irritation of the above-mentioned posterior roots may cause vascular dilatation, there is a great difference between the phenomena thus produced and those observed after the irritation of a well-recognized vaso-dilator nerve, such as the chorda tympani or the glosso-pharyngeal, — a difference not only in the constancy and degree, but also in the time of appearance and duration of the resulting dilation. He therefore regards the existence of vaso-dilator fibres in the posterior roots of the lumbar nerves as not demonstrated.

Collateral Innervation. — When vascular tonicity is restored in a region which has been separated from its nerve centres, the explanation usually given of the phenomenon is that the terminal apparatus has assumed, in the absence of impulses coming from the central nervous system, a higher degree of activity than it formerly possessed. Stricker² has, however, shown that this is not the only method by which such a result may be reached. He concludes from his experiments: first, that each vascular region is supplied by many vaso-constrictor nerves, which leave the cord at different places; secondly, that after division of the cord between the lumbar and dorsal regions the restoration of vascular tonicity in the hind limbs is effected by the vaso-constrictors which leave the dorsal cord above the point of division. He considers it probable that these vaso-constrictors have their centres in the spinal cord (or in the brain), and that they are of themselves too weak to maintain the tonicity of the vessels which they supply, but that after division of the cord they gradually acquire greater power. Stricker proposes the term “collateral innervation” to express this process.

Antagonism of Vaso-Constrictor and Vaso-Dilator Nerves. — The effect of simultaneous irritation of the two sorts of vaso-motor fibres has been studied by von Frey³ by a method similar to that employed by Baxt⁴ in the investigation of the inhibitory and accelerator nerves of the heart. The nerves chosen for this purpose were the chorda tympani and the cervical sympathetic of the dog. The effect of the irritation was measured by the amount of blood flowing from the veins of the submaxillary gland, as determined by the automatic recording apparatus described by Gaskell.⁵ As the result of his experiments, von Frey concludes that when both nerves are subjected to maximum irritations the blood flows through the gland in the same way as if the sympathetic alone were irritated, and this is the case whether the two nerves are simultaneously or successively irritated. The influence of the chorda tympani, thus held in abeyance, reappears, however, in its full strength on the cessation of the irritation of its antagonist. It may,

¹ Archives de Physiologie, 1876, page 832.

² Wiener Sitzungsberichte, February 1, 1877.

³ Ludwig's Arbeiten, 1876, page 89.

⁴ Ludwig's Arbeiten, 1875, page 179.

⁵ Ludwig's Arbeiten, 1876, page 45

therefore, be said that the activity of the chorda tympani produces a certain change in the vascular walls, in consequence of which the flow of blood becomes more rapid, and that the cervical sympathetic, while it cannot hinder this change from running its natural course, can (as long as it is itself active) prevent it from influencing the circulation.

THE WEST RIDING REPORT.

VOLUME six of the West Riding Lunatic Asylum Reports is at hand, and, like its predecessors, shows a commendable amount of work on the part of the hospital staff, actual and honorary. In size and style it resembles the last medical report of the Boston City Hospital, and comprises thirteen papers, all quite valuable, and some containing new and original matter. The most important article happens to be the last, On Epilepsies and on the After-Effect of Epilepsies, by Dr. J. Hughlings Jackson. In this paper Dr. Jackson elaborates and reiterates his now somewhat familiar theories on cerebral physiology, much to the reader's advantage. His views, though based on the doctrine of nervous evolution of Herbert Spencer, are supported by his own exceedingly valuable researches into the phenomena of epilepsy. His connection with the Hospital for the Epileptic and Paralyzed gives him an opportunity of observing cases in their incipency, and cases of partial or incomplete epilepsy such as never find their way into hospitals for the insane.

His definition of epilepsy, it will be seen, is far more comprehensive than that of the books. He defines it as an occasional, sudden, excessive, and rapid local discharge of some *part* of the cortex which by some pathological process has become highly unstable. *Any* set of symptoms presented paroxysmally from such discharge is an epilepsy. Whether consciousness be lost or not is of no consequence. All nervous centres, from highest to lowest, are made up of nothing but nervous arrangements representing impressions and movements. States of consciousness are parallel with certain nervous states of the highest centres, which are its physical substrata, but consciousness is not itself a nervous phenomenon.

Every epilepsy is what Dr. Jackson calls a *brutal* development of the functions of some part of the cortex, and, when the momentum is great, of collateral and lower healthy centres also. Recent experiments have shown that what has been called "menial work" is performed by the cortex. It helps to regulate the beat of the heart, the flow of saliva, the action of vaso-motor nerves, and probably all the organic functions, so that symptoms relating to these functions enter into the phenomena of epilepsy. It is probable that the heart, for instance, is represented in every unit of the very highest centres. In *petit mal* a slight pallor is the only outward sign corresponding to momentary loss of consciousness. Here the highest centres, anatomically speaking, are alone involved. When the fit begins lower down consciousness is often preserved.

The symptoms of a fit may be motor or sensory. The convulsion is obvious, but the sensory derangement being subjective the evidence is indirect.

Colored vision, numbness, sensations of cold, nausea, and suffocation, vertigo, noises and voices in the ears, are sometimes reported by the patient at the onset of the fit. Dr. Jackson considers migraine a slow epilepsy in which colored vision occurs, with sometimes a zigzag outline indicating excitation of some closely allied motor centre. The headache and nausea are sequelæ of the discharge. The auditory auræ are probably sometimes sensori-motor.

There is loss of function in two ways during epilepsy: First, during the discharge the ordinary use of the centre is in abeyance. No elaborate actions or mental states occur. The so-called intellectual auræ, such as spectral illusions and voices, are due probably to the activity of healthy parts secondarily excited. The second kind of lost function is due to exhaustion from excessive nervous discharge. This was Todd and Robertson's hypothesis, but Dr. Jackson gives it new proof and illustration. For instance, after a convulsion beginning unilaterally there is often hemiplegia of the side first convulsed. There is a transient epileptic aphasia, from the same cause apparently. Post-epileptic loss of consciousness he attributes to exhaustion of the highest centres, during the discharge of which consciousness ceases, we know not why nor how. In the simplest forms of incomplete epilepsy, also, there may be local paralysis, or at least numbness, which is a phenomenon similar to the excessive fatigue following excessive muscular action of a healthy kind.

In the principle of compensation Dr. Jackson finds an explanation of the fact that movements may be largely represented in parts the destruction of which shows no loss of movement. According to his hypothesis each movement is represented everywhere, but particular movements are specially represented in certain parts. The centres or areas of Hitzig and Ferrier are not abrupt localizations, but places where certain movements are specially represented. Extirpation produces transient palsy, while slow destruction, as by a tumor, allows of gradual compensation, which proceeds *pari passu*.

The transient paralysis following epilepsy may vary in range and degree. In the third volume of these reports Dr. Jackson compared three degrees of convulsions beginning unilaterally with three degrees of hemiplegia from clot in the corpus striatum. He believes there are degrees of dissolution corresponding to the steps of evolution. In the first degree of hemiplegia, for instance, the eye and head movements escape, not because they are not represented in the destroyed units of the corpus striatum, but because they are also represented in every unit of the parts intact. In the second degree the eye and head movements suffer because from the graver lesion too few units are left.

It is impossible to follow here in detail the further elaboration of the above theory of representation. Dr. Jackson does not, as some have supposed, regard the ordinary attacks of epilepsy beginning with loss of consciousness as originating in the middle centres, known as Hitzig and Ferrier's region, but in those highest centres situated anteriorly and posteriorly. He believes that the left posterior and right anterior parts of the cortex are the substrata of subject-consciousness, — that is to say, they represent the whole organism as it is *affected* by its environment; while the right posterior and left anterior parts are the substrata of object-consciousness, and represent the whole organism as

it *reacts* on the environment. For the explanation and what little proof is afforded by the phenomena of epilepsy of this hypothesis the reader must be referred to the paper itself.

The next longest and most important paper is by Dr. Browne, On the Pathology of General Paralysis. He recounts the characteristic gross appearances familiar to all asylum physicians, and selects adhesions of the pia mater to the subjacent gray matter as the most constant lesion. He believes that these adhesions explain the essential nature of the morbid process, which he considers to be a chronic inflammation growing out of abusive functional activity. He thinks that when carefully studied they will account for the order of the symptoms. As is well known, these adhesions affect chiefly the anterior portion of the cortex and the summits of the convolutions. The latter fact he accounts for by the mechanical contact of these summits with the unyielding cranium. Dr. Brown emphasizes the fact that in all chronic forms of insanity the visible pathological changes terminate at the parieto-occipital gyri. Thickening of the arachnoid, adhesions of the pia mater, wasting of the convolutions, and even microscopic changes are rare in the occipital lobes. This statement rather destroys the force of his attempt to connect the adhesions in general paralysis with corresponding motor symptoms. To be sure he does this only in the most general way, but affirms that the adhesions, when carefully studied, will show such correspondence.

The paper is illustrated by plates showing the adhesions in six cases of general paralysis. The ordinary method of stripping the pia mater with forceps under water is very tedious and liable to tear the gray matter of the cortex. Having learned of Professor Rollston, of Oxford, a method of hardening the brain in nitric acid, Dr. Brown found that he was enabled to remove the pia mater completely and easily, leaving a beautifully distinct map of the erosions, which could be drawn and colored effectively.

There is a paper instructive to physiologists and physicians which we have space only to mention, by Dr. W. Bevan Lewis, presenting a series of Calorimetric Observations upon the Influence of Various Alkaloids on the Generation of Animal Heat. The list includes atropine, solanine, hyoscyamine, strychnine, picrotoxine, ergotine, and chloral.

Dr. Lawson has continued his observations on the effect of hyoscyamine in the treatment of insanity. He finds it of value in cases where aggressive and destructive excitement is the leading symptom. Its value in these cases depends on the extreme physical helplessness induced, the memory of which serves afterward to stimulate the patient's self-control. This treatment has a disciplinary aspect and savors of chemical restraint, but if it does good it is not worth while to give it a bad name.

There is a useful paper on the Therapeutics of some Affections of the Nervous System, by Dr. Fothergill; one on Classification and Nomenclature in Nervous Disorders, by Dr. Rabagliati; and a more practical one on the Climacteric Period in Relation to Insanity, by Dr. Merson. Dr. Clapham continues his statistics on the Weight of the Brain in the Insane, and jointly with Dr. Clarke gives measurements of the Cranial Outline of the Insane and Criminal, taken by means of the "conformateur" used by hatters.

T. W. F.

SEGUIN ON SPINAL PARALYSIS.¹

THE present work is an enlargement of an essay read in 1874 before the New York Academy of Medicine. It contains accounts of forty-five cases, of which seven are contributed by the author, all referring to adults; the affection in children, being already quite well known under the designation of "essential" or "infantile" paralysis, is not specially described. The identity of these two affections is shown by the author, and their leading symptom, a wasting of the voluntary muscles, is referred to a lesion of the motor cells in the anterior cornua. Other lesions of the cord often coexist, as sclerosis or softening. Clinically, the disease is divisible into an acute, a subacute, and a chronic form. Its diagnostic points are rapid paralysis with loss or perversion of electric reaction (unlike progressive muscular atrophy); wasting of the muscle (doubtless due to the spinal lesion, as in progressive atrophy); subordinate importance of symptoms relating to sensibility; absence of tendency to the occurrence of complete and lasting paralysis of bladder and rectum. The chapter on diagnosis contains a valuable suggestion as to the possible identity of cases of limited, so-called "rheumatic" paralysis, and some cases of atrophy after neuralgia, with the present affection.

A very careful analysis of the symptoms is given, with a synopsis of the pathological anatomy of the cases hitherto examined, both in adults and children. Treatment is fully entered upon, and the actual cautery, ergot, iodide of potassium, belladonna, electricity, baths, and massage are recommended. The memoir, while valuable as a whole, is especially full in its clinical accounts and its descriptions of symptoms.

HOSPITAL REPORTS.

IN our comments upon the published transactions of medical societies, we have not hesitated to complain of what we have always considered a great waste of valuable material which was thus withheld from circulation in periodical literature and buried between the covers of an annual report. It might be supposed that the same argument would hold good when applied to hospital reports, but a glance is sufficient to convince one that the vast resources of such an institution as a great hospital could not be made to serve the purposes of instruction more effectually than when the results of the labors of its professional staff are collected and arranged in a manner which greatly strengthens the value of each component part, and presents in a condensed form, but on a large scale, the practical applications of the latest advances in the science and practice of medicine.

It is therefore an agreeable task for us to welcome the second series of the Reports of the Boston City Hospital, which has been one of the first in this country to attempt a fair representation of hospital practice, and which affords an ample confirmation of our views. We can read, for instance, in the description of Dr. Cowles, an account of that new departure in hospital construc-

¹ *Myelitis of the Anterior Horns, or Spinal Paralysis of the Adult and Child.* By E. C. SEGUIN, M. D. New York: G. P. Putnam's Sons. 1877. 8vo. Pp. 120.

tion, the pavilion system, as well as the various details of a finely equipped modern hospital. Illustrated by copious diagrams, it forms a valuable contribution to a question at the present time of primary interest and importance.

The department of medicine is appropriately represented by an article from Dr. John G. Blake, on the Treatment of Empyema by Permanent Openings, a subject which owes its prominence chiefly to the labors of Boston physicians, and the literature of which Dr. Blake has enriched by a collection of nineteen cases, which are, we may add, to our minds prepared in a clear and instructive manner. The cold-water treatment in typhoid fever is a question which must be solved by hospital practice. Dr. Edes gives a report of thirty-five cases treated systematically in this way from the first week of the disease with but one death. The great difficulty of carrying out this treatment is, however, frankly acknowledged. Dr. Green's warning in regard to the dangers of disease of the brain arising from inflammations of the ear is another practical point of interest to every practitioner. These are but samples of a valuable collection which includes reports on several special subjects.

The chief labor of the surgical part of the report is borne by Dr. Cheever. It consists mainly of an abstract of the surgery of the period embraced, with also a collection of rare cases occurring in his own service. We have already alluded to the specimen of an elbow-joint resected by the subperiosteal method, showing the reproduction of bone, a specimen which might fairly be said to rival that of Professor Woods shown at the late German surgical congress. A valuable contribution on compound fractures is given by Dr. George W. Gay. The field for such work is broad in this country, but one hitherto sparingly utilized. We should all be glad to see the vast clinical resources of New York made available in this way, and to profit by the experience of Southern and Western hospitals.

We must express the hope that the excellent example set by the City Hospital staff will find speedy imitation elsewhere.

HYDROPHOBIA: A REPLY TO DR. YOUNG.

MESSRS. EDITORS, — In the JOURNAL of June 14th, Dr. Aaron Young "ventilates" his views on hydrophobia. Will you kindly allow me to make a few remarks upon the same?

The gentleman says he gathers "from observation and the remarks of the vulgar and intelligent, in countries where dogs are treated humanely, on the principle of live and let live, *both* sexes are equally spared, and are 'as thick as frogs in Egypt.'

"During a residence of eleven years in Brazil I never heard of a case of hydrophobia, and pressing inquiries elicited what was regarded as a true solution of rabies in the dog. *It was our inhumanity to the animal.* Domesticated and domiciled as a true friend, we are regardless of his natural instinct. We destroy the female to an extent which causes an unnatural disparity of the race. In Brazil the *mare* is never ridden; it is considered *vulgar*," etc.

Now Dr. Young must be a believer in the "spontaneous generation" the-

ory of rabies, — a theory that is considered untenable by the “masters” of the profession, such as Virchow, Böllinger, Neimeyer, Von Reder, Billroth, Schmidt, etc. Bollinger says of the disease: —

“It is an acute, infectious disease, coming on in the form of a functional disturbance of the central nervous system, with an absence of all gross anatomical changes, and distinguished from other similar diseases by its long and extremely variable period of incubation. The specific materies morbi, the intimate nature of which is unknown, belongs to the endogenous class of specific poisons, is propagated only in infected animal organisms, is fixed, non-transportable (*nicht verschleppbar*), and never volatile. As in the case of genuine inoculable diseases, hydrophobia originates only through infection, it being essential that the virus should come in contact with an abraded portion of the skin of mucous membrane, in which respect it bears the closest resemblance to syphilis. The communication of the poison is effected almost invariably by means of the bite of a rabid or infected animal, whereby the poison is implanted directly in the animal. The existence of a spontaneous or so-called miasmatic development of hydrophobia is entirely unproved.”

The fact of the occurrence of rabies in wild animals (wolf, fox, skunk), among which the numerical relation of males to females is a natural one, no obstacle being opposed to the gratification of the sexual appetite, affords proof of the fallacy of Dr. Young’s hypothesis, as also does the circumstance that the disease does not prevail in all places and continuously, but appears at certain times only, and then is confined to a certain territorial district. Hydrophobia has *never* been known to arise among wild beasts kept in close confinement in menageries and zoölogical gardens, to whom the gratification of the sexual appetite is for a long period of years denied.

For upwards of a century no canines of the “troublesome” sex have been permitted in the Island of Sark, in the English Channel, and yet, with a large dog population, a case of hydrophobia has never been known. In Greenland, where “*both* sexes are equally spared,” hydrophobia raged in 1860, and again in 1863. Constantinople, justly called a “canine paradise,” has dogs “as thick as frogs in Egypt,” the numerical relation of the sexes being regulated entirely by nature, yet hydrophobia is of frequent occurrence; hundreds and thousands of animals died of rabies in 1839. The same may be said of Athens, where so many victims died of rabies in 1866.

Algeria, Egypt, the East Indies, China, Cochin China, Java, Palestine, British Guiana, West Indies, and the Argentine Republic have all suffered more or less, the very countries where rabies should *not* appear, according to Dr. Young.

“Eleven years’ residence in Brazil” proves nothing. Hundreds of physicians have practiced medicine in New England alone for half a century, and never met with a case of rabies, and never would have heard of one but through the medium of the press. Hydrophobia appeared as an epizootic in Bahia, San Salvador, Brazil, in 1821, and the year following in certain districts of the province of Rio Grande do Sul. In October, 1867, a mulatto was bitten by a dog in the Rua dos Latociros in the city of Rio de Janeiro, or, properly, San Sebastian. The dog was killed, and the mulatto died in the

Jurujuba Hospital. Dr. Correo de Azevedo, then attending physician, but now resident of Theresopolis, is the authority for this statement.

Again, though a year's residence in Newfoundland may have qualified the doctor, he is nevertheless in error regarding the appearance of hydrophobia, as several cases occurred among the dogs of that island in 1865.

"*Cauterization is a humbug!*" Strong words. When his young son was bitten by a rabid dog, Dr. Yarrow (U. S. A.) cauterized the boy's wounds with fuming nitric acid, after using the scalpel freely; this a couple of hours or more after the youth was bitten, though the hospital steward had previously used lunar caustic. Although the bites inflicted by the animal just previous and subsequent to his attack upon young Yarrow proved fatal, the boy escaped. Think you Dr. Yarrow considers cauterization a humbug? It seems to be the only thing thus far that offers a chance for safety.

G. ARCHIE STOCKWELL.

NEW YORK, June 19, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JULY 14, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	831	40.11	27.46
Philadelphia	850,856	441	26.95	22.88
Brooklyn	527,830	347	34.18	24.31
Chicago	420,000			20.41
Boston	363,940	147	21.00	23.39
Providence	103,000	34	17.16	18.54
Worcester	52,977	21	20.61	22.00
Lowell	53,678	16	15.50	22.21
Cambridge	51,572	21	21.17	20.54
Fall River	50,372	26	26.84	22.04
Lawrence	37,626	18	24.85	23.32
Lynn	34,524	8	12.05	21.37
Springfield	32,976	10	15.77	19.69
Salem	26,739	6	11.67	23.57

MESSRS. EDITORS, — Can you not call the attention of the profession to the propriety of agreeing upon a uniform way of pronouncing the word "gynæcology?" Let it be *g* hard or *g* soft, and *y* long or *y* short, but let us have uniformity.

Again, let me ask why we say "dia'meter," and on the other hand "kilome'ter." It has always been "penta'meter," "hexa'meter," and why not "deka'meter" and "hecto'meter"?

UNIFORMITY.

BOOKS AND PAMPHLETS RECEIVED. — Syphilitic Phthisis. A Paper read before the Missouri State Medical Association. By William Porter, M. D. St. Louis. (Reprint from Transactions.)

The Annual Announcement of the Department of Medicine and Surgery of the University of Michigan for 1877-78.

Sixth Annual Report of the Trustees of the City Hospital of the City of Worcester.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII.—THURSDAY, AUGUST 2, 1877.—NO. 5.

ERYSIPELAS AND PUERPERAL FEVER.¹

BY JOHN M. CROCKER, M. D., PROVINCETOWN.

SAID Bacon, "I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor, by way of amends, to be a help and ornament thereunto."

As a rule it can be safely said that though country practitioners are by nature and habit the equals of their city brethren in keenness and accuracy of observation, yet they are not as often in the habit of methodically recording their cases and giving the profession at large the result of their experience as the former, and in consequence they hide their lights, and much information that might prove of vast benefit to the brotherhood and to mankind in general is lost; while on the other hand, medical men of the cities enjoy frequent intercourse, and report and converse upon their cases for the mutual advantage of themselves and their country brethren. Not that much beneficial knowledge has not proceeded from the villages, yet I believe the balance to be largely in favor of the cities. Partially in view of this, and believing, with a recent writer on this same subject, "that matters of general professional interest must inevitably be unearthed even by a most careless observer," I have consented, though with many misgivings and considerable reluctance, to read you what I have imperfectly seen in treating, during the past winter, cases of erysipelas and lying-in patients at the same time.

I have no new theory to advance regarding the causation of puerperal fever, of which so much has been said and written, often acrimoniously and dogmatically, and concerning which men of eminence and undoubted ability and scientific attainments have widely differed, so that after consulting the authorities one is quite as much at a loss to understand the nature of the terrible malady as before the perusal of the thousands of pages that have been penned about it. I would not have the physician relax one effort in the employment of prophylactic measures, but on the contrary would urge him to redouble his vigilance to prevent the occurrence of a disease, of which even the precursory symptoms

¹ Read before the Massachusetts Medical Society, and recommended for publication in the JOURNAL.

are sufficient to strike terror to the strongest hearts, he who has had the fullest experience dreading it the most, — heroic and mild remedies, scientific and empirical treatment often proving alike unavailing in preventing a fatal termination.

I of course would not attempt to refute the testimony of the army of medical men whose experience seems indisputably to prove that there is a connection between erysipelas and puerperal fever, that in an epidemic of the former the latter is more likely to occur than at other times, but I am strongly inclined to think that if every epidemic of erysipelas were reported, it would be seen that in many of them puerperal fever did not prevail either epidemically or sporadically, and that in many instances in which they did coexist, unmistakable evidences of the presence of some septic material other than erysipelas would have been discovered if the practitioner had not allowed himself to be blinded by inclining too readily to the belief that erysipelas was the all-potent cause, — the subtle, unrecognized agent continuing to act (perhaps *with* the erysipelas) until disastrous consequences ensue; for we know from published statistics that not every epidemic of erysipelas is accompanied or immediately preceded or succeeded by puerperal fever, and that many times not the slightest connection is noticed between the two; that in those instances the connecting link, that is, the essential element in the production of childbed fever, is absent; that erysipelas alone is impotent; and that the difficult problem to be solved is to discover this missing link, or to point out the surroundings, atmospheric influences, or the peculiar condition of the patient that favors its production. It has been variously designated by different writers: “an atmospheric condition;” “an altered condition of the blood, consisting mainly of pus;” “a profound dyscrasia of the individual constitution;” “epidemic influence,” which an author defines as “this all-pervading, incomprehensible, subtle, and deadly influence;” “another element unknown;” “septicæmia and pyæmia;” while some regard it as an “essential fever,” and that there is a modification of the general organism, occurring antecedent to the local lesions; Dr. Collins’s observation seemed at first to prove that it was derived from local causes rather than anything noxious in the atmosphere, though his views were subsequently changed. Some believe firmly in its contagious nature, while others stoutly deny it. Meigs says that he cannot tell what is an epidemic cause, since it is uncognoscible, recondite, and beyond the scope of human understanding. He scoffs at the idea of erysipelas being identical with puerperal fever. Many country physicians take this same ground. Within a few months I have conversed with several who tell me they do not hesitate to attend cases of erysipelas and lying-in cases at the same time, and have never noticed bad results. Dr. Minor, in his work on this topic, cites many instances of epidemics of erysipelas and puerperal fever that went hand in hand, yet

also shows by many illustrations that they did not always coexist. The opinion that the two maladies are identical, or that one is caused from the other, does not prevail as largely as many suppose. A remarkably strong case against the power of idiopathic erysipelas to produce childbed fever was that reported by Dr. Boardman before the Obstetrical Society of Boston, and published in the JOURNAL of November 16, 1876, as follows: "Mrs. M. was recently pregnant six or seven months with her fourth child, the exact duration being unknown, as the catamenia had not been present since the birth of her previous child. In consequence of receiving two severe blows in rapid succession upon the left side of her abdomen, the membranes apparently were ruptured, and a large amount of fluid escaped from the vagina. Two weeks later labor was completed suddenly, and a living child was forced from her while she was standing. Two days later the child died. During the day on which she was confined, one of her children complained of feeling unwell, and of a pain in the side of his face. On the following day he presented a well-marked facial erysipelas upon this side, which subsequently involved the entire face and scalp, and was attended with very high fever. Convalescence became fully established on the eighth day, the disease running a normal course. During his week's illness he was confined to his bed, alongside that of his mother. It is a rare occurrence for a puerperal woman and a patient with erysipelas to *remain* in such immediate juxtaposition, and the result was watched with no little anxiety as well as interest, especially when we consider that the several accidents in the interval must have had a prejudicial effect upon the system of the woman in childbed, and may, perhaps, have rendered her condition more favorable for the reception of the erysipelalous poison to which she was exposed so greatly. Fortunately, however, she recovered rapidly from her confinement without any unusual or unfavorable symptom. Dr. Boardman remarked that it is held by some writers that idiopathic erysipelas possesses no element of danger in connection with the puerperal condition.

"Dr. Sinclair said that he had raised a similar question in reference to a case which had come under his own observation."

I will briefly sketch the series of cases observed by myself recently, but will first glance at the sanitary condition of the town of four thousand or five thousand inhabitants in which they occurred, for I do not regard it as a particularly healthy locality, and cannot see why the poison of erysipelas could not be as easily propagated here as elsewhere, and if it is such a prolific source of puerperal fever, why its baneful results were not exhibited.

At the extremity of Cape Cod there is a narrow, sandy point thrust out into the sea; vegetation scanty; natural soil porous, though most of the residences are surrounded by imported soil; a few swamps half

a mile north of the village; a body of water three or four miles long, formerly salt, now dyked off from the sea and become fresh, emitting noxious odors in the hot months; houses built closely together, most of them being very near the water of the magnificent harbor on the shores of which the town stands. The drinking-water is mainly supplied by tubular wells, located in many instances without regard to cess-pools and privies. But little typhoid fever prevails in its season, though dysentery, cholera morbus, etc., are common at certain times. Throat, bronchial, and lung diseases abound in cold weather. Many foreigners reside here in an over-crowded but not over-neat condition. The Americans are tidy about their premises, but many do not believe in the "new-fangled notions" about hygiene. The breezes of ocean fan the town almost unceasingly, and there are but very few moist valleys to catch or engender malarious poisons. During the occurrence of my cases scarlet fever was epidemic in the town.

My first patient, Mrs. M., the wife of a clergyman, was attacked with erysipelas November 19, 1876. The face and scalp, the seat of the disease, were badly swollen and covered with bullæ; the accompanying fever was severe. From two to five visits were made daily, the suffering being great. Convalescence took place at about the ninth day. By December 1st she was able to move about the room, but on December 4th was again attacked, though with less severity, convalescence beginning in five or six days.

On November 22d Mrs. L. was confined with a son. The surroundings of the patient were of the worst character, the family being destitute, house very small, the patient having little or no care. Recovery rapid.

November 24th. Mrs. McK. was confined with a son. Comfortably situated. Good recovery.

November 26th. Mrs. W. was confined. Labor tedious. Surroundings healthy and care good. Convalescence uninterrupted.

December 11th. A Scotch girl was attacked with phlegmonous erysipelas of the hand, attended with severe constitutional symptoms, and in two weeks erysipelas of the face and scalp set in. She was very ill.

Mrs. N. was seized with erysipelas of the face and scalp December 21st. The disease was attended with the usual constitutional symptoms. Patient under treatment a fortnight.

December 19th. Mrs. O. C. was confined with a daughter. December 24th. Mrs. C. with a daughter; on the same evening Mrs. McD. with a daughter. All convalesced normally. On the 25th Mrs. B. with a daughter.

Mrs. L. W., after wounding her hand with a splinter of wood, had erysipelas of the hand and arm, with constitutional symptoms setting in.

January 12th. The parts were greatly swollen and painful. The accompanying fever was high. Several visits were made daily.

Mrs. O'N. was confined January 9th (I still being in attendance upon the Scotch girl). Convalescence uninterrupted.

On the 13th inst. Mrs. H. was delivered of a daughter. There was some fever on the third day, which continued for three or four days; but as there was retention of urine, requiring the use of the catheter several times daily, with cystitis and inflamed and tender vulva, the milk being secreted at the same time, and as there was no diarrhoea nor abdominal tenderness, and the patient was up in a fortnight, I concluded that my attendance upon the erysipelatous case had nothing to do with the febrile attack.

The following case is introduced to illustrate how favorable the circumstances seemed to be at this time for the production of puerperal fever, if scarlet fever is an important element in its causation, and to sketch briefly a case of scarlatina as a complication of the puerperal state, believing it not to be irrelevant to the topic under consideration: Mrs. B., primipara, was confined March 15th, after a moderately easy labor of two and a half or three hours. She had not been at any house where there was or had been scarlatina, but ten days previous to her confinement she was visited by a friend who had been with a case of scarlet fever. Forty-eight hours after her labor her pulse quickened, face flushed, and she vomited several times. The following morning her arms and chest were covered by a scarlatinous eruption. There were retention of urine, loss of appetite, scanty secretion of milk, some abdominal tenderness; lochia scanty and exceedingly offensive; vulva and meatus urinarius very tender. No sore throat. Fever did not subside before the eighth day. Desquamation occurred, beginning with the face. Convalescence very tedious and not completed at the middle of May. During my attendance upon this case I delivered several women, among them a twin case, the patient living in a house scarcely better than a hovel, surrounded by discomforts. In none of the cases was the recovery delayed.

On the 3d of April Mrs. Y. was attacked with severe febrile symptoms attending erysipelas of face and scalp. On the 7th inst. Mrs. J. H. was delivered of her third child. Forty-eight hours previous to her labor she had a fall upon the coccyx, which was so painful as to deprive her of sleep and to oblige her to summon medical assistance. Her recovery, with the exception of the pain and lameness resulting from the accident, was rapid.

This completes my list of cases of erysipelas and puerperal cases that were attended together during the past winter. In years past I have had similar cases of which no record was kept, though the result was the same.

It may be said that so few cases prove nothing; but it seems to me that they do demonstrate that not every parturient patient is endangered by the obstetrician being in attendance upon an erysipelatous case; that something is needed with the virus of erysipelas to produce childbed fever, and that this "something" is what the physician is to guard against, though in our present state of knowledge regarding this disease, as has been stated, it is impossible to define it, and we have to contend against an obscure and incomprehensible cause. I believe that the theory that erysipelas, traumatic or idiopathic, is a ripe source of puerperal fever often misleads the physician in his endeavor to understand the ætiology of this much-discussed disease, and perhaps ere this the occult influence would have been fathomed, if it were admitted that erysipelas, scarlet fever, etc., were powerless *per se* to develop puerperal fever. I knew a medical man who gave by mistake mild chloride of mercury, for subnitrate of bismuth, for the vomiting of pregnancy, and who could not see what made his patient abort and have ulceration of the mouth and fauces and necrosis of the jaw. He was positive that the chloride was not the poison he was dealing with, but investigation demonstrated that that was the agent which entailed the suffering and subsequent disfigurement, and if employed as he used it it would do so every time. So the accoucheur may be dealing with unrecognized toxicological agents (*real*, if hidden), while he ascribes the pitiable condition of his puerperal patient to diseases which, to say the least, unaided by this all-pervading, incomprehensible, subtle, and deadly influence, have not the power to produce puerperal fever, and in order to avert the calamitous results that follow in its train it must be sought out and understood, and every effort in every case must be made to render the condition of one's patient proof against its insidious attacks. If puerperal fever be contagious, as many claim, the sporadic cases must be closely guarded and discreetly treated; and if erysipelas, or typhoid or scarlet fever be ever a secondary element in the ætiology of childbed, it must be so managed that it shall become innocuous.

Is it too hopeful to believe that, in the progressive march of medical science, these difficult problems will yet be solved by the zealous and untiring efforts of thousands who are laboring to lessen the physical suffering of humanity? The practical question to-day is, What can be done to counteract the effect of this morbid influence, — the essential element in the production of puerperal fever, — and to prevent its generation? What means can be used to fortify the puerperal woman against its ravages during epidemics, or its alarming results when occurring sporadically? When we consider the condition of the uterus and vagina of a patient immediately after delivery, it excites our wonder that there are not fewer favorable convalescences after normal labors. What an easy method for the imbibition of poisonous secretions in

the patulous and bleeding uterine orifices and the frequently lacerated tissues! What a rife source of inoculation in portions of retained placenta and shreds of membrane left to decompose in the uterine cavity! Undoubtedly, "meddlesome midwifery is bad," but a slack, do-nothing midwifery is sometimes as mischievous. There are certain things that it is better to do at the conclusion of every natural labor than to leave undone, in order to promote the comfort and recovery of the puerperal patient, fortifying her against the stealthy attack not only of the disease under consideration, but of others that prolong convalescence and endanger life.

I believe it to be important after the delivery of the foetus to see that not only the placenta is extracted entire, but also that the uterus is emptied of clots and bits of membrane, which is best effected by the administration of a reliable preparation of ergot and by pressure, the former to be administered just previous to the birth of the child, the latter performed first by the hands of an assistant and afterward by a binder properly applied; to prevent the subsequent formation of clots by enjoining perfect rest and quiet, and, if required, the further administration of ergot; to order the application to the vulva of clean cloths, with a sprinkling of carbolic acid or other antiseptic; and if attendants are obliged to handle the parts to advise the previous use by them of carbolic acid. Early attention to the bladder, the unloading of the alimentary canal by the third day (a practice becoming obsolete with some physicians) and syringing the vagina with an antiseptic, not waiting for the lochia to become offensive, are of importance, and best of all a sensible nurse who is not "half a doctor herself," and who is willing and ready to carry out the directions of the physician "with the spirit and with the understanding also." If cases of erysipelas are being attended, the topical use of carbolic acid and the observance by physicians and attendants of the strictest cleanliness are essential, not forgetting the antiseptics; in short, a strict espionage upon patients and employés, barring the doors against garrulous pseudo-friends, and the use of discretion in diet, neither starving nor gorging the patient; appropriate remedies as occasion requires are called for, neither overdosing nor abstaining from the use of drugs, not losing sight of the patient until convalescence is well established. With all these, and still other and better precautions, we are fearful that "the pestilence that walketh in darkness" will yet claim many a fair victim; still, nothing daunted, the physician will pursue and combat the "unknown cause," happy in the thought that his persevering labors may in some case have stayed the hand that has afflicted and made desolate so many happy homes.

REMITTENT SUBACUTE MENINGITIS.

BY S. PUTNAM, M. D., MONTPELIER, VT.

THE discussion upon Meningitis simulating Intermittent Fever, published in a recent number of the JOURNAL, has led the writer to offer the following report of a case which it is hoped may be of interest to the members of the Society for Medical Observation: —

February 25, 1870. Robert W., aged fourteen years, was taken with chills or tremulousness after going to bed, during which the respiration was hurried and noisy, the speech unintelligible, and the mind overpowered; soon, however, reaction occurred, and he became feverish and delirious through the night. In the morning the symptoms passed off; he rose, dressed, took breakfast, and went about his usual pursuits through the day. During the day he complained only of having felt several turns of momentary giddiness or partial loss of consciousness. The following night he was again affected as above described. On the third day of his attack he remained in bed, though he would have risen had not his parents objected. For three days he remained comfortable, but was then again seized with loss of speech, rapid and noisy breathing, during and after which he could be made to understand but little.

On the morning of March 2d, I was called to see the patient and obtained the foregoing imperfect history of the case. I found the lad with a pulse of 70 per minute; skin cool and pale; complaining of headache above the right eye; very little heat of the head; pupils very large and contracting slowly on exposure to light; conjunctivæ not congested; tongue slightly coated; no nausea; bowels constipated; free and frequent discharge of urine. The patient called for food, promptly put out his tongue, and correctly answered questions at the moment asked; he was constantly calling his attendants, even if they were already present, talking, counting, and reaching for imaginary objects. There had been no rigidity of the muscles discovered. Temperature in axilla, 98° F. The patient was of lymphatic temperament, but had had good health. He had recently been excited in school, and nine months ago received a blow upon his forehead; within two or three weeks he had been dispirited and more forgetful than usual, the day before his present attack having made a decided and unusual blunder about his work, and a neighbor had seen him in the street appearing as though he had "lost his senses" for a short time. Meningitis, Bright's disease, and obscure chronic brain affection occurred to me. I prescribed foot-baths, sinapisms, a cathartic, and bromide of potassium. The patient rested but little during the night, and was inclined to get off his bed, continually talking. Temperature 98°.

A second cathartic operated well on the 4th, but did not modify the symptoms. The urine continued free and was not albuminous. Pulse 80 ; temperature 98°.

March 5th. The patient was much the same except that he was inclined to sleep most of the time since he took five grains of Dover's powder.

March 6th. The eleventh day of the disease he said he felt "first-rate ;" called for food, and was talkative again. Pupils large and inactive ; no nausea ; no squinting ; temperature 100°. To have Dover's powder at night if he did not sleep.

March 7th. Was quieted by the powder, but was evidently getting worse ; much carphologia and griping. The bromide was continued with the iodide of potassium. Blisters were applied behind the ears, and one compound cathartic pill was given.

March 9th. Bowels moved two or three times ; patient no better ; with slight assistance got to the chair, and occasionally attempted to get off the bed to execute some reverie of his morbid fancy ; temperature in axilla 98°. Was becoming daily more debilitated and emaciated, though nourishment was often administered.

March 13th. Patient continued much the same until the 12th, when he became more stupid ; respiration frequent and obstructed by mucus ; pulse rapid and small. A resort to stimulants had seemed to rally the vascular system, but nerve power became more depressed ; intelligence less ; evacuations involuntary ; right eye blood-shot, pupil larger than its fellow and immovable ; pulse 120, temperature 103°. He moved very little, lay mostly upon one side or the other, but was not palsied. Quinine and iodide of potassium were given, and the blisters were renewed.

March 14th. Patient comatose, pulse frequent and tense, and temperature 104°. No rigidity or spasmodic action, except tremulous rolling of the eyes. He gradually sank, and died on the morning of the 15th, eighteen days after he was taken ill.

Autopsy. On opening the cranium the vessels were found very dark and full, and along their course, between the arachnoid and pia mater, fibrinous matter and pus were deposited. In some places the product had assumed the form of small grains. That portion of the coverings of the medulla oblongata resting upon the basilar process was densely covered with plastic matter. There were two ounces or more of serum in the arachnoid cavity. The central portion of the right anterior lobe of the cerebrum was softened to the extent of an inch or more in diameter, not diffuent.

It may be, perhaps, questionable whether this case was primarily one of meningitis or of softening in the right anterior lobe, from embolism or some other cause resulting in meningitis. The post-mortem appear-

ances answer very well to what Niemeyer describes as "tuberculous basilar meningitis," except the location of the softening, which in this case could not have arisen from compression by neighboring fluid. The earlier symptoms were not those of tubercular meningitis, but of disturbed cerebral function, and existed months before the apparent occurrence of meningitis, which it would seem must have begun in a remittent or subacute form on the night of February 25th. The parents say they have seen their son occasionally put his hand to his right temple and complain of pain since receiving a blow in that region nine months before. Those accustomed to see the boy also think that he has been affected through the winter, at times appearing "not to know what he was about." Could concussion from a blow have thus resulted, and no marks of surrounding inflammation have remained?

I have since regretted that sufficient time was not bestowed upon the examination to demonstrate, if possible, the cause of the softening and whether tuberculosis existed in the chest or abdomen, though indications of such a state had not been observed. That a person should be about after a severe attack of meningitis I think is very unusual, though Watson and Flint speak of somewhat similar cases. They remark on the frequent obscurity of the invasion, and mention cases that were treated for intermittent fever, gastritis, etc. Niemeyer speaks of remittent types of epidemic cerebro-spinal meningitis, and says that "occasionally alternations occur several times, usually with a more or less regular quotidian type." Again, this case is obscure as regards temperature: once only, before the near approach of death, did the thermometer indicate a temperature above 98°, and at no time a less degree. Physicians of broader experience may have seen similar cases. The temperature during the earlier stages of the disease being normal and the pulse at 70 per minute, would, I think, contra-indicate acute or pulmonary tuberculosis.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

*Remarks on Scarlet Fever.*¹—At the meeting of the Berlin Medical Society, held November 15, 1876, Dr. Henoch made the following remarks on scarlet fever, an epidemic of which existed in Berlin at the time. First, with regard to its malignity: it has been the custom of late to ascribe this entirely to the high temperature; yet this is in part only the cause, for the nervous symptoms peculiar to the malignant form are very frequently absent in other diseases, as, for example, in typhus fever, where the temperature is equally high for an

¹ Berliner klinische Wochenschrift, February 11, 1877.

equal length of time. In the majority of cases we must look for the cause in the specific action of the scarlet-fever poison. Next to the nervous centres it is particularly the heart which is affected by the virus. The albuminuria is often only a symptom of the heart's weakness, which causes a stagnation of the circulation in the kidneys. Scarlet-fever poison has also a great tendency to cause inflammation, with necrosis (the so-called diphtheritic inflammation) of certain mucous membranes. Such inflammations must not be confounded with the "diphtheria" which is an infectious disease, having a specific poison peculiar to itself, which can under certain circumstances, as in hospitals, be combined and coexist with scarlet fever. To prevent such confusion Dr. Hensch recommends the adoption of another name for diphtheria, as, the "cynanche contagiosa" of Senac. One of the symptoms, from a prognostic point of view the most unfavorable, in severe cases of scarlet fever is an obstinate diarrhœa, as a cause for which the autopsy does not show any catarrh of the intestinal mucous membrane, the most that is found being a swelling of Peyer's patches and of the solitary follicles. Second, as regards the treatment: in the beginning, when the temperature is high, the symptoms dependent thereupon (the malignant symptoms) must be combated antipyretically; but the use of cool or cold baths is not to be recommended, as the results from them are far from being encouraging. In this disease the danger of collapse is much greater than in typhus fever. Lukewarm baths at a temperature of 88° to 90° Fahrenheit are of much better service. In the same manner the use of salicylic acid requires great caution, owing to the danger of collapse. In malignant cases, beyond a certain degree of infection, treatment is perfectly powerless. In cases of a medium degree of severity stimulants are especially useful, such as wine and coffee, and of medicines camphor is preferable to musk for this purpose. When there is difficulty of swallowing, this can be given subcutaneously, dissolved in alcohol, which increases the stimulating properties of the camphor; but to prevent inflammation the alcohol must be diluted with equal parts of water.

There exist still very different views with regard to the nature of the kidney affection in scarlatina. The amount of blood found in the urine in different cases varies very much. The so-called hæmorrhagic as well as the non-hæmorrhagic form can run its course without fever as well as without any complication. The treatment for both forms is the same. In the front rank stand purgatives when diarrhœa does not exist; next comes acetate of potash, the use of which is unattended by any danger. Dr. Hensch commonly gives in addition Wildungen water for a drink. With this treatment many cases run a favorable course in from eight to fourteen days. When this is not the case the time has arrived for the use of astringents, especially ergotine or tannic acid, and later

the liquor ferri sesquichlorati. During the course of a case of nephritis there often supervenes weakness of the heart, with slowness or irregularity of the pulse, without being accompanied by any of the symptoms of uræmia.

Dr. Nathanson remarked upon the frequency with which epidemics of scarlet fever and puerperal fever made their appearance at the same time. He had also found that puerperal women, during epidemics of scarlet fever, were more subject to puerperal fever. Both diseases, too, have certain symptoms in common, as an uncommonly high pulse and a disposition to diphtheritic inflammation, so that there is some reason to consider the two diseases as resembling each other.

Dr. Wiss alluded to the fact established at the International Medical Congress held at Philadelphia, that the acute exanthematous diseases as met with in the United States are more frequently of the malignant type than in Europe, without, as a rule, being complicated with the diphtheritic affection of the throat. During a practice of thirteen years in the United States he was in the habit of giving in the first days of the disease an infusion of cinchona, and had seen the best results from it. For the dropsy he had found digitalis with juniper berries useful.

Dr. A. Baginsky agreed perfectly with Dr. Henoch as to the influence of high temperature in scarlet fever. The high temperature of fevers is only dangerous when of long continuance. When children, sick with scarlet fever, after one attack of vomiting become somnolent, lose their consciousness, and die a few hours later, it does certainly look as if they had succumbed to the action of some powerful poison. Dr. Baginsky did not consider, however, that the poison of scarlet fever acted with particular severity upon the heart. In the first place the complexity of symptoms of paralysis of the heart is wanting. In some cases with very rapid pulse we do find a very imperfect arterial tension; in other cases, however, the tension is perfectly good, and yet the children become gradually moribund. Secondly, the pathognomonic sign of absence of the second tone of the heart, as is seen in such a striking manner in cholera, is wanting. In the stage of impending paralysis of the heart in cholera we find the patient's consciousness but slightly impaired, whereas in scarlatina this is a prominent symptom. It is more in accordance with experience to regard the action of the poison as affecting indiscriminately all parts of the organism. In looking back upon the history of scarlet fever and of its treatment, we find that the latter has taken two directions the opposite of one another. One group of physicians have treated it as an inflammatory disease with antiphlogistic remedies; the other group have rapidly had resort to stimulating measures. History proves the former to have had the more favorable results; and these then went so far as to attribute the malignity of the disease to the use of stimulants. If this statement is

an exaggerated one, still it is a fact that the use of mild cooling remedies and abstaining from too energetic treatment offer the best results. Inasmuch as the removal of the effects of the scarlet-fever poison is a gradual one, the above-mentioned mild remedies are those most favorable to recovery. Nature points out the way to this by pushing forward the poison to the skin, and finally removing it by desquamation. For this reason the treatment should be directed towards the skin; and the speaker always resorted to baths, not, however, with the design of acting in an energetic manner antipyretically, and never employing a temperature lower than 81.5° Fahrenheit. After the bath the child should be wrapped in a linen sheet, covered lightly, and after an hour the body should be inuncted with lard. By this treatment the speaker felt sure that he had saved lives that would otherwise have been lost. He recognized clearly that in cases of malignant scarlet fever, and where there are serious complications, this treatment is often equally powerless with all others; but since the adoption of this treatment he had had less mortality than previously. One result of this treatment is a less protracted desquamation. This stage is often marked only by a slight roughness of the skin, and the peeling off of large flakes of skin is never seen. When the temperature of the bath, after the disappearance of the fever, is raised to 92° Fahrenheit, even if there be albuminuria, the appearance of dropsy is much more rare, and this symptom is never found to be very severe. With regard to nephritis, although the use of baths in many cases is not followed by decisive results, he had never seen any evil effects from them. He could not agree with Dr. Henoch's views on the action of tannic acid. He was inclined to consider its use in some cases, especially where used early, as a dangerous remedy, and had often seen hæmaturia supervene during its employment. As to diuretics, there comes a time in the course of scarlatinal nephritis when their employment is useful, but it is difficult to define exactly when that time is. Where micturition is scanty, but at the same time the urine is clear, highly albuminous, and contains fatty granular detritus in large amount and but few red blood corpuscles, and when at the same time the children are pale and considerably bloated, diuretics should be used carefully. The speaker had been much impressed in one such case, where baths and cathartics had been used without success, by the great benefit which followed the use of juniper, the œdema rapidly disappearing with the production of active diuresis. A very unfavorable complication in scarlatina was icterus, which, if nephritis coexisted, could cause very unpleasant symptoms; Nothnagel's explanation was that the deposit of bile pigment in the kidneys produces great disturbance in the circulation and an impediment to diuresis. In one case that came under the speaker's observation there was complete suppression of urine for three and a half days. The child recovered under the use of juniper berries, and the only symptoms present were nausea and headache.

Dr. Senator asked what had been Dr. Henoch's experience in the treatment of scarlatinal affections of the throat. It appeared to him that the confusion now reigning with regard to the so-called "diphtheria," especially the different views entertained as to the value of local treatment in the pharynx, depended upon the mistake of regarding the affection in the pharynx in scarlatina and diphtheria proper as one and the same disease. In diphtheria there is a great disposition of the affection in the pharynx to extend into the larynx, which is not the case in scarlet fever. For this reason Dr. Senator disapproved entirely of the use of irritating or caustic applications to the throat in diphtheria, whereas in scarlatina there would be no fear of doing harm by their use. With regard to the treatment of nephritis in scarlet fever, he made use of acetate of potash, with or without digitalis, in the very earliest stages with good results. Its diuretic action is partly explained by the fact that it is changed in the body to an alkaline carbonate, and the urine is thus made alkaline or neutral, by which means the albuminous casts and epithelial detritus that block up the urinary tubules are dissolved, and the flow of urine is again set up. He had seen the best effects follow the use of warm and hot baths, even in cases where albuminuria had already set in.

Dr. Henoch said that with regard to the stimulating method alluded to by Dr. Baginsky, he recommended it only for the malignant cases. The affection of the pharynx, whether in scarlatina or in diphtheria, he treated without energetic local applications, for the reason that it was accompanied with so great difficulties. He used inhalations or injections of a two per cent. solution of carbolic acid or of other allied substances, and applied ice compresses to the neck. A relationship between puerperal fever and scarlatina he considered not demonstrated; and the disposition of women, after confinement, to scarlet fever he thought explainable by the large "wound surface" in the uterus. For this reason during scarlet-fever epidemics a healthy woman, during convalescence from confinement, takes scarlet fever and not puerperal fever.

Dr. Nathanson thought that during an epidemic of scarlet fever such patients, in a majority of instances, take puerperal fever and not scarlet fever.

Dr. K. Langenbeck asked if cases of gangrene were often observed in scarlet fever. He had seen three such cases. One was of the nose, another of the extremity of a finger, and in the third case, a child of ten years, the scarlet fever had had a regular and normal course, when suddenly there set in gangrene of the eyelids and of the toes. Such cases appear to have always a fatal termination.

Dr. Henoch had seen in one case decubitus, and in one case there was gangrene of the nostrils. Both cases terminated favorably.

Dr. Leligsohn had within a few days, in a case of scarlet fever, seen a perforation of the hard palate take place. Dr. Wilms, who saw the case at the same time, had a short time previously seen a similar case.

Dr. Simon had observed in a case of scarlatina gangrene of the scrotum, with recovery.

*Artificial Food in Earliest Infancy.*¹ — The following can be considered as the effects upon “morbidity, mortality, and nutrition,” established by the authors’ experiments with various substitutes for breast milk employed by them in their asylum when the nurses’ supply is not sufficient (two infants being given to each nurse). The articles in use by them were: condensed Swiss milk, Scotch oat meal, fresh cow’s milk, and Nestle’s powder.

Children during the first five days of life were almost invariably made sick by any one of the above substitutes, which caused disturbances of digestion, and the rate of mortality was increased. Between the fifth and fifteenth day the Swiss condensed milk acted the most favorably, one part to nine of water. After the fifteenth day the proportion used was one part to seven, or two parts of this solution and one part of freshly-boiled cow’s milk. After the second month Nestle’s powder was by far the most satisfactory substitute. At the best, however, the attempt to use artificial food of any kind before the end of the first month gave most discouraging results. The authors’ method of employing substitutes with infants during the first five days of life was to alternate the breast with the artificial food, giving the former five times daily and the latter four times. The amount taken at each meal varied from two to three ounces. The attempts to increase the digestibility of cow’s milk by the addition of soda or gelatine in the authors’ hands were not successful.

(*To be concluded.*)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

APRIL 28, 1877. Eighty-one members were present, the president, DR. H. W. WILLIAMS, in the chair.

Expedients in Gynecological Practice. — DR. JAMES R. CHADWICK made the following remarks: —

Having always held the opinion that a multiplicity of instruments is but a poor substitute for skill, it has been my aim to make the few instruments which I habitually carry in my bag answer many purposes. As some of these devices may prove useful to others I shall venture to lay them before the society.

¹ Monkewitz and Kruse. Annual Report of the Imperial Foundling Asylum at St. Petersburg. St. Petersburg med. Wochenschrift, No. 7, 1877. Allg. med. Central-Zeitung, March 3, 1877.

(1.) *Wool wadding* for vaginal tampons and the application of acids to the uterine cavity I have found much more serviceable than cotton-wool, because it absorbs fluids more rapidly, as you see, and can be wound upon the instrument more easily, and it never gets matted. If cotton-wool, however, be used its absorbent qualities may be much increased by boiling in hot water. For tampons it will be found occasionally convenient to affix several to the same string, at distances of about three inches.

(2.) For *intra-uterine applications* I employ the wire stilets from the common English catheter. If the ends of these be roughened with a file they answer the purpose quite as well as the silver instruments with handles, which are sold for one or two dollars. If it be desired to leave a wad of wool, saturated with a styptic, in the cavity of the uterus to check hæmorrhage, this may be readily effected by inserting the wire into a catheter, about three inches of the closed end of which has been cut off; let the wool then be twisted loosely round the protruding end of the wire, soaked in the solution, and introduced; if the catheter be then held firmly and the wire withdrawn the wool will be left in the uterine cavity. The catheter and wire are cheap and efficient substitutes for Sims's whalebone staff and silver canula. For the removal of such wads from the cavity Dr. Sims has devised a modification of a corkscrew, which works well, but may be dispensed with if the operator will simply lay a piece of twine upon the wool alongside the wire, and will by careful manipulation roll the wool round the two at once; the two ends of the twine then being tied together, the wool is passed into the cavity; the next day the patient can extract it by drawing upon the loop of twine which passes through its centre.

(3.) *Uterometer*. Many appliances have been attached to the uterine sound to mark the distance to which it enters the uterine cavity. This object may be perfectly attained with the ordinary sound, when introduced through the speculum, by putting a little dab of grease near its end; this will be pushed by the external os out upon the instrument, as it enters, and on withdrawal will indicate the depth to which the sound has penetrated. Occasionally the grease will partially adhere to the os, but by watching it during the withdrawal of the sound it can easily be seen whether the upper or the lower margin of the grease marks the length of the uterine cavity.

(4.) *Syringes*. In the middle of one night, about a year ago, I was trying to check profuse hæmorrhage from a carcinomatous uterus by injecting through an elastic catheter a solution of liquor ferri perchloridi by means of a hard-rubber syringe. I was disturbed to find that its barrel had so warped as to allow the fluid to escape round the piston rather than be forced through the eyes of the catheter, which were probably plugged with blood clots and the tissues of the growth. In this emergency I saved myself a long journey home in search of another syringe by unscrewing the cap of the barrel, applying my mouth to its open end, and blowing into its cavity while the syringe was held perpendicularly. The force of gravity, of course, kept the fluid at the bottom of the barrel, whence it was forced through the catheter by the inflation. The hæmorrhage was at once arrested. Lately I incised a Bartholin's gland which was in a state of chronic suppuration. The pus that issued was so offensive

that I thought it advisable to wash out the cavity of the abscess. I accomplished this, in the absence of a syringe, by filling my mouth several times with water and squirting it through a clean catheter into the cavity of the abscess.

(5.) *Aspiration*, with any of the instruments, is often a tedious process and requires considerable apparatus. In removing fluids from the abdominal and pelvic cavities, I have partially avoided these obstacles of late by using the aspirator needle with simply a long rubber tube attached. By allowing the latter to hang down I make a siphon, which exercises considerable aspiratory action. The flow is of course started and maintained for some time by the abdominal tension, supplemented by pressure of the hands or of a swathe. Regurgitation, which might be feared toward the end of the operation, with the introduction of air into the evacuated cavity, is prevented by letting the end of the tube lie beneath the surface of the fluid in the basin.

A common Davidson's syringe, affixed to the canula and allowed to hang down, will act in precisely the same way, while the flow may be accelerated by squeezing the bulb, as has been pointed out by Dr. Flint in connection with tapping the chest.

That the simple tube will answer for all fluids from the abdomino-pelvic cavity, except the thick mucilaginous variety of the ovarian fluid which can never be extracted by aspiration, I can affirm from experience.

(6.) *Rubber tubing* of various sizes I never fail to carry in my bag. Little pieces of it drawn over knives and trocars protect their edges and points much more efficiently than corks, and do not fall off so readily.

(7.) This knife (instrument shown) on a long staff is designed for operations in the interior of the womb; I protect the cervix or, if no speculum be used, the vagina by passing the blade into a rubber tube through a longitudinal incision at about its middle; the tissues are thus protected from the sharp edge during the manipulations necessary to bring the knife into the proper position; by the free end of the tube, which projects from the vulva, I then drag the tubing up the staff of the knife, uncovering the blade.

(8.) I used to be much troubled by the *sticks of solid nitrate of silver* not fitting my holders, and by their breaking when the ring was forced down. By pushing them into pieces of tubing of suitable size and cutting off enough of the latter to uncover their points, I make them fit the holder and preserve them from being broken.

(9.) *Urethral Dilators*. I have rarely had difficulty in dilating the female urethra with my fingers, beginning with the little one; but on several occasions the outer half of the urethra has been so unyielding, owing to chronic urethritis, as to resist all my efforts. In the first case I overcame the resistance by inserting dressing forceps, — such as are specially adapted to general gynecological purposes by the narrowness of the blades and the length of the handles, — and opening them forcibly. This procedure effected the object, but the blades kept nipping the walls of the urethra, and their tips caused considerable laceration of the canal. To obviate these casualties, I next time passed the blades into a piece of tubing through a longitudinal slit two inches from its end; the instrument, thus, protected, could be opened very wide without the

possibility of injury to the urethra; the free end of the rubber can be held so as to prevent its accidental escape into the bladder. Although this improvised dilator may not be quite so convenient as Sims's, yet it will prove a very handy substitute.

(10.) *Elastic Pessaries.* The well-known rings of watch-spring, covered with soft rubber, have been popular because of their comparative harmlessness and the ease of their introduction. The chief objection to them is their dilating the vagina so much laterally as to shorten it in length, and if they are long worn they weaken its walls. To prevent this lateral distention I one day slipped on a common rubber band, which worked well as far as the pessary was concerned, but was found, two weeks later, to have nearly amputated the cervix uteri by the friction of its sharp edge. For the band I substituted a ring made of tubing by pushing its two ends over a piece of an English catheter about three fourths of an inch long, and of the same size as the tubing. This improvised elastic band had, of course, no edge which could cause ulceration by pressure or friction, but would slip off the pessary when the latter had been lubricated by oil or the natural secretions of the vagina. A piece of silk tied round the apposed portions of the band near the ring at each side rendered it immovable, and gave me an instrument which acts admirably in many cases where Hodge's pessary and others are contra-indicated by the presence of a hymen, a tender prolapsed ovary, etc., etc.

I offer this pessary to general practitioners as being very efficient and perfectly safe. Though I believe that specialists are best qualified to choose the pessary which is adapted to an individual case, yet I deem it all important that every practitioner should be able to treat any ordinary displacement of the womb; for this purpose it is desirable that he should have a pessary that is easy of insertion and harmless in its operation, even if it be not quite so well adapted to support the uterus, rather than more complicated and harmful instruments.

DR. BOWDITCH asked Dr. Chadwick whether, in using a siphon with a long tube for evacuating the contents of the abdominal cavity, it was not probable that the tube would become clogged by a coagulable fluid.

DR. CHADWICK thought it possible.

Treatment of Fistula in Ano. — DR. JOHN P. ORDWAY read a paper on this subject in which he took decided grounds against the use of the knife, especially in deep-seated fistula, advising instead local applications with expectant rather than abortive treatment. He had treated successfully since January 1, 1868, three hundred and forty-three cases of fistula in ano, watching each case until permanently cured. They included all the different varieties, and the most important would be reported, with the plan of treatment, in a work on Diseases of the Rectum and Anus, which he was compiling. He advised, before making any examination, clearing the bowel thoroughly with an enema of warm water, castile soap, and olive oil, without which no proper examination could be made, either tactile or ocular. The table should stand about four feet high and, as in hospital practice, be so arranged that the physician can pass around it, and use either hand without stooping or over-exertion. Whenever examining a case at the patient's house, an impromptu table of this kind should be

required, thereby conducing greatly to the comfort of both physician and patient, as well as insuring a correct diagnosis.

Dr. Ordway showed the members present a new form of speculum which was made for him, open on four sides, with the exception of an eighth of an inch at the end, the object being to save turning the instrument and to give a more complete view of the parts. He stated that he thought a more useful one could be made by being open at both ends. The Allingham speculum was undoubtedly the best in use, but could be improved by more side openings. In withdrawing it pass the little finger, instead of the plug, into the speculum. This simple manipulation will give great ease to the patient, and will prove of practical value to the physician. No class of diseases requires more care or watchful attention than diseases of the rectum and anus; the greatest patience is needed and the utmost caution must be observed in the treatment to avoid abortive means, rather inclining towards assisting than forcing nature's laws. How often the most simple form of fistula has become complicated by too great haste in operation! The abscess which forms previous to the fistula owing to the peculiar position of the muscles, should be opened with hydrate of potash sharpened to a small point. The form of the probe used by Dr. Ordway was also shown, and is somewhat different from those commonly used in the examination, being longer than the ordinary kind, with a round instead of flat needle eye, and, by its increased length, giving more power with less liability to spasmodic contraction of the sphincters. In passing the probe it should be done slowly, without the finger in the bowel, until it has entered as far as possible; then, the surgeon passing the finger, the contracting muscles will generally yield readily, and if the fistula be complete, very little difficulty will be experienced in the passage. After entering the bowel thread the probe with a single strand of large-sized silk, to which attach a large *mèche* composed of several strands of silk; draw this through, and for a few days it will allay inflammation to a great extent by preventing any fæcal passage through the canal. If it becomes necessary to change the tent from time to time, by fastening the new one to the old, you avoid the painful operation of repassing the probe. The caustics which Dr. Ordway has been the most successful with are what are termed vegetable caustics, and can be applied by injection; or a few grains of the powder may be placed upon the *mèche*, and drawn back and forth to create inflammation and destroy the induration. The advantage of vegetable over mineral caustics is that they do not decompose healthy tissues. Upon these they exert but feeble action, and in unhealthy conditions they bring about a normal action without exciting any great amount of inflammation. One form of caustic used is the sesquicarbonate of potash, made by dissolving the bicarbonate of potash in a sufficient quantity of water; strain, evaporate, and then dry the resulting sesquicarbonate by a gentle heat. This is a mild preparation. If the fistula be extensive and deep seated, a more active caustic is made from oak-wood ashes evaporated to dryness. Both of these preparations should be made by a thorough chemist, as the first, particularly, will be inert from its impurity unless great care is used in making. The hydrate of potash, used in some cases in the proportion of ten or even twenty grains to the ounce of water, is effective provided it is not allowed to remain

too long in contact with the parts, its action being checked by the free application of vinegar. Iodine and Filhos's caustic are also useful in some cases.

Dr. Ordway said that he had treated thirty-four cases of fistula in ano by the rubber ligature with good results, but they were very superficial and not complicated with any collateral sinuses. He could not but think that Allingham's report of cases cured by elastic ligature must have been somewhat premature, for those cases which he had seen, where the sphincters were cut through from being divided too soon, were even worse than when separated by the knife.

After the induration is removed to a certain extent, Dr. Ordway's plan is to tighten the ligature slowly by twisting with a "toggel" for a few moments every day when the proper time has arrived, and as a result the fibres of the muscles reunite nearly as fast as they separate; there is no loss of power, and the patient can attend, as a general rule, to the ordinary duties of life by wearing a bandage with the application of benzoated oxide of zinc or red lead ointment to the parts; thus the general health may be kept up more easily than by confinement to the house. This mode of treatment would apply to most cases unless something were to contra-indicate it. The time employed in the cure varies from six weeks to six months, or even longer, but if thoroughly and carefully watched the results are good, and the great safety attendant upon this form of treatment cannot but recommend it to those who use it.

Dr. CHADWICK inquired how the pain was controlled.

Dr. ORDWAY said by injecting vinegar, and that a minute internal opening could be detected by injecting warm water.

In response to a question by Dr. Wheeler, Dr. Ordway said that he began his treatment as soon as the acute stage had passed.

Dr. WHEELER inquired whether caustic of uniform strength was used.

Dr. ORDWAY said no, but that each case must be treated according to the circumstances.

Dr. HENRY A. MARTIN said that he was a member of another district society. He was much interested in the subject of the paper which had just been read. It, with the other diseases of the same region, had largely engaged his attention for nearly thirty years. He would, if the society permitted, make some remarks on that paper. He would not presume to make this request were it not that he had received written invitations from several members of the Suffolk district, and the requests were accompanied by a suggestion that he should address the society.

Permission having been granted, Dr. Martin said:—

Some years since I read in one of the medical journals a paper said to have been delivered before this society. I read the paper with astonishment and indignation that any society should have, even by listening to it, tolerated its reading, that any member should have dared to offer such a production. The paper alluded to gave a sort of narrative of several cases, and indicated a vast multitude more, in which physicians, and often many in succession, had utterly failed, while the writer had perfectly succeeded by means of a treatment entirely different from that usually practiced, and which he claimed to be infinitely superior, and, of course, of the greatest possible value and importance to the profession; but there was not the slightest indication what that treat-

ment was. Medical, or rather pseudo-medical, literature is no stranger to such productions. The lamented Swaim, the disinterested Bodenhamer, the erudite Sweet, and many, very many more "of that ilk" had written and published just such cases by the thousand in their numerous productions, cured by the use of remedies and methods of treatment the composition and processes of which were kept in the most profound secrecy. The game is an old one, and will probably never become obsolete. So long as the multitude wishes to be deceived there will always be plenty to deceive it, and nowhere has this game been more neatly and successfully played than here in Boston. When I was informed that a paper was to be presented to-night to this society by the same author and on the same subject I could only presume that the writer had discovered the error he had committed, and now proposed to give the society the results of a still larger experience and a clear and full professional statement of the remedial means and processes by which he claimed to have achieved success superior to that of other surgeons. I came with a vague sort of hope which, I need hardly say, has been utterly disappointed. The paper we have heard is simply nothing, at any rate nothing to this society. The writer has exhibited some common rectal specula and probes, not of the slightest interest or novelty. No narrative of a single case and no intimation as to treatment that could by any possibility be of practical use to any one. One thing we can gather, that this mysterious treatment of fistula in ano is by means of various caustics, generally of an alkaline character. This will-o'-the-wisp mystery is claimed to be not a revelation from the living but an exhalation from the grave of a certain defunct quack, whom the writer apparently considers to have been its inventor.

But, seriously, what is this caustic treatment of fistula and other rectal diseases? Why, Mr. President and brethren, it and the use of alkaline caustics as a means for opening abscesses are both among the abominations and horrors of mediæval and classic surgery. If you love old books as I do, some of you may have read the tract of Hippocrates on *Fistulæ*. I have it here, but will not read it; enough that in it and Paul of Ægineta, and Ætius, and on through Celsus and Galen, you will find every possible variety of treatment by means of caustics; among them this very one by the lye of wood ashes or caustic alkali, by ligatures smeared with caustic solutions and pastes and salves; but these works of the venerable fathers, or rather great-grandfathers, of medicine and surgery give a clear, practical idea of what was intended, and how it was brought about. Bad as was the method, it is honestly stated; all is clear and plain and professional; words are not used to conceal ideas and methods, but to make them intelligible. Hippocrates practiced nearly two thousand five hundred years ago. This method of treating fistula was the method employed for over twenty centuries; and when you come to the Arabian writers and those of the Renaissance, to Fabricius and Vesalius, old Guy de Chauliac and Paré, and so on to Wiseman and the rest, you will find how they lament its imperfection, and how often, through it, *fistulæ* failed of benefit or remedy. It was not till the last century that we find a name, one of the greatest in our annals, the worthy teacher of the great John Hunter; in a luminous and exhaustive treatise, the best beyond all comparison ever writ-

ten on this disease, with all the experience of England's greatest surgeon, with a practice far beyond any predecessor in extent, Percival Pott flung aside and forever, so far as true surgery is concerned, the abominable farrago of the cautery, actual and potential, as well as the hideous treatment by complete excision, and substituted for it the accepted treatment, the result of which, in properly selected cases, performed by competent operators, and subsequently tended with proper assiduity, is speedy, complete, and permanent cure as a rule, so general that the exceptions only prove it. Why did those great, those greatest men, Hippocrates and Paré and a legion more, for so many centuries use caustics in the treatment of rectal fistulæ? Why, in the utter failure of the caustic treatment, except in the simplest cases, did they excise the whole indurated tract of the sinus, and then sear the wide-gaping wound with the incandescent cautery? Simply because they considered that induration an evidence of malignity, and as they would have burned away with caustics or excised with the knife all of a scirrhus, so they thought they must remove every particle of this induration. Another reason was their dread of hæmorrhage; and this is the reason, or one of the reasons, why modern charlatans outside our ranks, and inside, too, employ them. When a gentleman's knowledge of anatomy is, unfortunately, so imperfect that he does not feel *quite* sure that the carotid artery or the arch of the aorta may not be somewhere in his patient's fundament, he will be very apt to prefer strings and soap-making caustics to that instrument which in the hands of a surgeon is salvation, in those of a quack destruction and death. Boston is gaining a bad eminence by the practice here by regular physicians of this essentially irregular mode of treatment, — this pseudo-revival of a long and most justly abandoned method of ancient surgery. This revival is due to the great pecuniary prosperity of a man who grew into notice and fame and fortune under my very house's eaves. I know the man's history well. Some thirty years ago, when I first settled in the southern borders of this city, he was the teacher of a primary school, utterly ignorant of medicine or surgery, even of the veterinary sort, but richly gifted with that audacity which Danton said was "everything," and the mendacity which is the quack's unfailing revenue. I first heard of this fellow, while he still practiced petty pedagogics, as the possessor of a wonderful Indian secret. This triumph of that subtle aboriginal genius, whence has flowed such a multitude of similar specifics, was a mixture of caustic potash, powdered bloodroot and flour; these were mixed with water to form a paste, or rather a sort of dough, which he carried about with him, and without fee or reward plastered on every ulcer and wen he could get at. His fame for "removing cancers" spread far and wide, and many people showed, as perfect and triumphant proof of cure, black, ragged sloughs, suspended in bottles of whisky. Very soon, school-teaching was given up; and very soon, too, Dr. Presto slipped into that specialty of gynecics, which was, *then* at any rate, an immense hot-bed of charlatanry and humbug. Very soon a large number of leucorrhœal women, with "ulcers on the womb," were under his care, and the dominant quack in that specialty waxed *small* indeed before Dr. Presto. His process was simple: the patients were examined with the speculum, pronounced to have "ulcers,"

and to be suffering from "incipient cancer." The os was plastered with the paste; a little vinegar was squirted in; by and by a black mass would come away, which, if large enough, was precious preserved in whisky. After a patient had gone through three or four hundred, or more, dollars' worth of these "operations," she was pronounced "saved," with leucorrhœa as bad as ever, or worse, but the cancer gone; for was n't it in the bottle?

You may depend upon it that if Dr. Presto had not been known to enjoy one of the largest incomes ever derived from practice in this city, there would have been no such eager inquest for his secret, nor such a boast of its exclusive possession by a regular physician. Why is it that a class of diseases most thoroughly investigated and understood, the best treatment of which is perfectly established, the results of which treatment, properly conducted, are solid and satisfactory beyond perhaps any other, is and has been always so largely in the hands of the quacks? One thing is the dread of the knife. The people are frightened away from us by constant, doleful, and mendacious stories of the horrors of "the knife." It must be acknowledged, however, that there is another great and leading reason. These cases are shirked by the profession. Occurring now and then in general practice, they seldom get from the general practitioner that careful, exact, and thorough examination and treatment which alone can achieve the best results. They are treated with astringent and sedative suppositories and salves, tar soap and Garot's pomade, by dabbings with nitric acid and with argentic nitrate, with injections of iodine, and other such nothings, in these cases, at any rate, as are poultices of fire-weed and M. Trousseau's remedy for fissure, the extract of ratany, which was no remedy at all, and certainly never cured a case of the true disease or even much benefited it. This last remedy, by the way, shows the infinite harm and error a very great man may be at the bottom of when he leaves the field in which he is *facile princeps* and presumes to equally great experience in another. Trousseau was a great physician; when he traveled into the domain of surgery he was not great or reliable.

By and by the patient slips into the hands of the quack, whose methods, if very bad, are thorough and often effectual, and the patient who has been nominally treated by often a dozen regular physicians is cured by a charlatan. How much honor, gentlemen, do you or your profession gain by such cases? They are far from uncommon. I do not blame any one for not liking to treat diseases of the rectum. Either treat them thoroughly and efficiently, or send them to some one who is willing so to treat them. If you do not, they will surely eventually glide into the hands of the specialist or quack, generally the latter, without your consent being given or even asked, little to your credit comfort, or profit. You can easily find men you can respect and associate with, and to whom you can recommend your patients with a clear conscience, or nothing can be more sure than that sooner or later they will fall away from you, and generally into the ever-gaping maw of the quacks, those *burning* shames. We can never hope that charlatanism will become extinct. (It would not be difficult to demonstrate that one of the great needs of our imperfect nature can no otherwise be met.) But we *can* and must try to keep the taint of *real* quackery from ourselves and our societies, and I have spoken

here to-night because I feel sure that it is in no way going to honor the profession of Boston to revive the caustic treatment of fistula, or to approve such papers as that which we have just heard.

DR. ORDWAY said that he regarded nothing in Dr. Martin's remarks as personal to himself; that he had treated three physicians, two of them members of this society, with success; that he presented his paper in good faith and believed what he said.

DR. WILLIAM READ remarked that he should agree with Dr. Ordway in his disuse of the knife in treating fistula in ano, but that his experience had not been long enough as yet to warrant him in coming before the society with his cases. It was perfectly true that this disease could be treated with success without cutting, and the number of those who had been operated upon and failed of a cure was large enough to cause a serious inquiry whether that was the best mode. The only way in which this could be settled was by coolly and calmly bringing our minds to the investigation in a strictly scientific way, subjecting each method to a judicial review, avoiding assertion and prejudice, and allowing the facts in the case to determine the verdict. He had seen within a year two cases where the knife had been used with very bad result. One of them was an old gentleman, more than sixty years of age, who had been cut three times. For many years he thought he was doing very well, but as old age crept on, and the power of reparation became impaired, the cicatrices of the cuts partially opened and ulceration took place, making him constantly miserable. The contraction of the sphincter made it impossible to pass the finger in beyond the first joint, and there was the greatest difficulty in relieving the bowels. It could only be done by means of enemata and digging away the feces with a small piece of sharpened wood. In the other patient there had been no union at all. He presented a V-shaped opening, perfectly covered with mucous membrane, into which three fingers could be placed. He could not control his feces at all. Now, if these results could follow the operation by the knife, was it not time to consider whether there might not be some better way? No surgeon could tell in any given case whether he is going to get good union or not. If his patient did well it was all right, but if he did not, if the union did not take place, then the last state of that man was as much worse than his first, when he had only the fistula to contend with, as could be imagined; whereas by the other method, where no knife was used, if no cure were accomplished, the patient was simply where he was before, — no better, no worse. In one sense he was better, for the application of the caustic took away all the morbid sensibility of the part, and with a little care in injecting some mild stimulant wash scarce any trouble was felt. This is more particularly the case with those fistulæ which open above the sphincter ani and have their external orifice *outside* that muscle. There is a class of fistulæ located within the sphincter, in the loose tissue at the anus, which do well under any treatment, and success can always be predicted; but it is the deep-seated, tortuous, calloused sinuses, with openings sometimes many inches away from the anus, both externally and internally, which should make us pause before cutting. The method used by Dr. Read differed from Dr. Ordway's. He was in the habit of passing a silk ligature looped over the end of the finger

into the rectum; the probe passed through the fistula from the *outside* met the finger in the rectum, and the loop of silk was caught in a slight notch in the end of the probe and one end drawn through outside. The ends of the ligature were then tied to secure them. This gave control over every portion of the fistula, and whatever was to be applied could be easily brought in contact with every part of it. A solution of potassa fusa, one ounce to an ounce of water, made into a paste, was then smeared on a bit of lint or several threads of embroidery cotton, tied to the ligature, and with this the fistula was scoured out. He had followed this treatment for the past four years, and as yet had seen no reason to change. In one case there were four fistulæ, one of which had been of more than twenty years' duration; another, which came seven years later, broke into the rectum exactly opposite the first, so that an injection of solution of permanganate of potash thrown into one external opening came out at the other. There were also two more recent fistulæ near the anus. The treatment stated before being followed, these were all healed in the course of six months. The patient was sixty-five years old, and had been given up by everybody. Three attempts had been made to operate, but the great depth of the sinuses deterred the surgeons in attendance from cutting. Now, if the cure by caustic had done nothing more than to cure this man, it had accomplished a great deal. In conclusion, Dr. Read hoped that the society would see the advantage of investigating this subject, of divesting itself of all prejudice, and of deliberating calmly and coolly. Let the issue go in the direction of the greatest amount of proof, whether it accord with our preconceived ideas or not.

DR. MARTIN asked what was done by the use of the caustic; whether the septum between the fistula and bowel was divided or not.

DR. READ said that as far as he could judge potash gave tone to the parts and dissolved the tissues; that the muscle was not divided, but the pyogenic membrane was absorbed by the action of the caustic.

DR. ORDWAY said that he had never kept a patient in the house after treatment, but had found a simple dressing of oxide of lead ointment, kept in place by a belt, sufficient.

Ovariectomy. — DR. JOHN HOMANS reported the case of a girl, sixteen years old, from whom he had removed a multilocular cyst of several months' duration. The operation was performed under carbolized spray, at the Carney Hospital. The pedicle was tied with catgut ligatures. The wound healed in one week by first intention, and in three weeks the patient was well. The case will be published in full.

SANITARY SCIENCE

THE impetus given to this branch of medicine of late years in England and elsewhere has already for some time been imparted to the profession on this side of the Atlantic. Its influence has, however, been felt none too soon, for the rapidly increasing size of most of our large cities had brought with it evils which could not be offset even by unusual natural sanitary advantages. The origin of the science in this part of the country may be said to date from the organization of our State Board of Health, previous to which

period physicians were content to leave matters of the most vital interest to the health of the community to men whose chief qualification for the important duties allotted to them was their standing in the political world. Doubts were freely expressed as to the utility of trained experts in matters of sanitation or the value of the work which such a board could accomplish, — doubts which, in some cases, were shared by members of the profession. In the few years which have elapsed its great value has been fully vindicated, and we venture to say there are few residents of the State, either in the profession or out of it, who do not turn with a feeling of confidence and relief to this source for a solution of the many sanitary problems which are pressing sorely upon us. The presence of such a body has helped to educate the profession in sanitary science, which already has become one of the recognized studies of the Harvard Medical School. The influence of its work has been widely disseminated throughout the country.

At the present time, when the great question of adopting a plan of sewerage for the city of Boston has been brought to that point that the whole subject has been placed in the hands of the city government for final decision, it is with satisfaction that we recall the prominent part which has been played by the profession in this matter, and the assistance which numerous recent publications on sanitary science will contribute in giving shape to the final plans. The activity of this special branch of the profession at the present time is exceedingly creditable, and deserves due acknowledgment. It is by such means that we can maintain that standing and power in the community which the medical profession should always hold.

The eighth annual report of the State Board of Health teems with subjects of interest in connection with this project. Its able secretary, Dr. C. F. Folsom, contributes largely to this department, which treats of the pollution of streams, the health of towns, the disposal of sewage, and other subjects of equal value. (We shall hope to be able to review at length the various special reports in the volume.) A paper read this spring before the American Statistical Association by Dr. Folsom, on the various methods of providing for the filth of large cities, we commend to the attention of all who take an interest in the future health of Boston or of the many other of our cities sorely in need of sanitary improvement. For ourselves, after a careful study of the subject, we are content to abide by the plan offered by those most competent to judge, the sewerage commission, as the most thorough and comprehensive, and which has been fully tested in the light of sanitary science. The era of sanitary reform through which the city is now passing affords a study worthy of careful consideration by the profession in other sections of the country.

MEDICAL NOTES.

— In an article in the *Practitioner* for April, 1877, on the Use of Weak Solutions of Saline Drugs, W. F. Wade, F. R. C. P., advocates the administration to patients of such solutions prepared artificially to resemble the various mineral waters of established repute. The salts in these waters in no way differ from samples made in the laboratory of the chemist, but the fashion in which

they are mixed by nature is very different from that in which we are accustomed to order them to be mixed and taken. For example, if we give a patient two scruples of carbonate of soda, we probably put it into an ounce of water, whereas nature at Vichy puts it into about sixteen ounces. If we give two scruples each of sulphate of soda and sulphate of magnesia, we put them into an ounce or an ounce and a half of water; nature at Friedrichshall puts them into sixteen ounces. Here, then, is a very material difference between the artificial and the natural prescriptions. We may readily imitate the exhibition of these natural waters by ordering an ounce of a mixture containing the proper amount of salts to be added to ten or fifteen ounces of water, and drunk either at once or in divided doses before breakfast every morning, or, if the patient be willing, it may be still further diluted. After further discussion of his topic, the author concludes his paper as follows:—

“It seems to me, then, that we can make, if rude, yet very effective imitations of some of the most potent mineral waters, and, secondly, that we can compose even better mineral waters than those which nature has provided.

“If, for example, we wish to act only on the liver, we can use the sulphate of potash by itself, whereas if it is necessary or appears desirable to conjoin purgation, we may add a suitable quantity of sulphate of soda or magnesia, as we think best.

“If we wish to act only on the kidneys, we can use carbonate of potash with citrate of lithia, combined with small doses of iodide of potassium or any other potash salt which we may prefer, and, indeed, if we desire to do so, the soda-salts likewise, and we add, if required, a purgative salt.

“If, as is perhaps most often the case, we think proper to act upon both liver and kidneys, we can combine any of the above-mentioned drugs. Nor is it difficult to utilize salts of iron and manganese, though I have not yet done so. The addition of chloride of sodium, a prominent constituent of so many natural waters, makes the mixture to most persons less unpalatable.

“I generally order the dose to be taken in warm water, as this mixture is, in the absence of carbonic acid, better tolerated by most stomachs, but cold water may be more agreeable to some, and, indeed, there is no reason why an aerated water, as, for example, Apollinaris, should not be employed as a vehicle. A course of this kind should be continued for from three to four weeks, or, in some instances, even longer, to have a fair chance of success.”

— Dr. Thain, *Canadian Medical Journal*, 1876, page 413, believes that gargles of alum, tannic acid, and similar astringents are useless for the purpose of astringing the vessels sufficiently to “press back” the inflammation in quinsy. His plan is to apply, externally, hot fomentations, with a few drops of turpentine, to the throat, and then to wrap the whole neck in flannel. Constant heat, moisture, and mild counter-irritation are to be kept up by frequent changing of these applications. The feet must be at once put into a hot mustard bath, and if the patient will then get into bed between blankets, so much the better. Gargles as hot as can be borne must be begun as soon as possible, and the most useful is a solution of carbolic acid, one part to forty of water. If the patient cannot gargle, carbolic acid in glycerine (one part to twenty or thirty) should be frequently applied by means of a feather to the parts. A brisk sa-

line aperient may be advisable. By this plan of treatment the inflammation subsides in a few hours, never running on to suppuration, and then a single alum gargle may be serviceable.

— From our British exchanges we learn that the emperor of Brazil, Dom Pedro II., has recently visited St. Thomas's Hospital, and was also present at the annual *conversazione* of the Royal College of Physicians. The *élite* of the profession were largely represented, and numerous articles of science and art were exhibited. The Paris correspondent of *The British Medical Journal* writes regarding the visit of the emperor to Paris: "Dom Pedro is a most indefatigable man, and the interest he takes in all that touches the arts and sciences, works of industry in general, agriculture, public instruction, etc., led him wherever there was anything new to learn. The emperor never missed a single weekly meeting of the Academy of Sciences, of which he has been elected a corresponding member. This election is considered an exceptional favor, as by the rules of that learned body the door is shut against sovereigns.

"During his stay in Paris he served as representative between his French colleagues and the *savants* of his own dominions." He presented at the meeting of June 4th some interesting communications of the highest importance in a scientific and industrial point of view. Besides being corresponding member of the Academy of Sciences, Dom Pedro is a member of the geographical and anthropological societies of Paris.

— The cultivation of the cinchona-tree seems to be meeting with marked success in India. The government plantations at Darjeeling are reported to be in a flourishing condition, producing about fifty tons of dry bark each year. From this bark about three and a half per cent. of medicine can be extracted, so that the plantations are already capable of furnishing to the hospitals in Bengal two tons of quinine and other preparations of cinchona. It is estimated that each native throughout Bengal needs on an average five ounces of quinine per annum, and at this rate it would require an annual supply of twenty-nine tons to suffice for the wants of this presidency.

— Dr. M. R. Speare, of Rochester, New York, describes a form of paper splint which he uses as a substitute for the plaster-of-Paris bandage. He thus describes it:—

"For the purpose I employ strong manilla paper and book-binders' starch, which consists of flour and water boiled to the consistency of jelly. I first prepare my paper by cutting it into strips long enough to encircle the limb at its greatest circumference, and varying from half an inch to an inch and a quarter in width. Having an assistant with the starch and a brush ready, I apply a flannel roller as far as I wish the splint to extend; then smear this with the starch, apply the strips of paper—after starching—the same as a many-tailed bandage, brush this over with starch again, and apply another layer as before, until I get the required thickness, which is usually six or seven layers, according to the firmness of the paper used. The whole process will occupy about fifteen minutes. When this is dry, which will take two or three hours by the aid of hot bricks or sand-bags on each side of the splint, it is very light and comfortable, fitting as nicely as a stocking, and is as firm as the same thickness of wood."

A specimen which we have seen shows a tolerable degree of strength, but is not by any means equal to the silicate-of-potash bandage.

— Dr. Edward Warren (Bey), a prominent American physician of Paris, has just been created a Knight of the Order of Isabel the Catholic, as a recognition of the professional skill displayed by him in the successful treatment of some Spanish personages of high position.

NITRATE OF PILOCARPINE.

MESSRS. EDITORS, — Permit me to call the attention of your readers to the very convenient means now accessible for producing the inimitable diaphoretic and sialagogue effects of jaborandi. I refer to the nitrate of its alkaloid, pilocarpine. This may be administered subcutaneously without trouble, and produces within five minutes a distinct moisture of the skin, and in a few minutes more profuse sweating and flow of saliva, lasting for some hours.

In a case of Bright's disease (parenchymatous nephritis of an extreme degree), where the hot-air bath failed to procure diaphoresis, and where jaborandi in infusion was vomited, the subcutaneous injection of a little more than one fourth of a grain of nitrate of pilocarpine produced abundant sweating and copious flow of saliva. The injection was several times repeated, as much, however, for the great relief afforded by its sialagogue action to the distressing dryness of the mouth as for the mitigation of the general symptoms, although the patient at first expressed himself as feeling much more comfortable after its action.

It has been used with similar results in two other cases, once in each. The therapeutic value of this drug cannot be considered at present as well determined; but such a convenient method of administration ought soon to furnish sufficient data for this purpose.

A solution of nitrate of pilocarpine grs. iiss or 0.16 gramme, aq. destill. ʒi. or 4 grammes, of which six minims or c.c. 0.4 may be injected, is of convenient strength.

I wish also to say a word of the value of picric or carbazotic acid as a test for albumen. It is said both by Professor Tyson and Professor Bowditch that it is less sensitive than either nitric acid or heat. Dr. Tyson, however, gives an erroneous method for its use. He says the picric acid is dropped into the urine, "when each drop as it passes through the urine is followed by an opaque white cloud." Picric acid does not "pass through" urine unless dropped from some distance, since a saturated solution thereof is *lighter* than urine.

The tube should be filled with the acid and the urine dropped in; when in a favorable light a cloud can be seen even from quite dilute solutions of albumen.

A specimen of urine which in its natural condition showed a considerable quantity of albumen still gave, when diluted twenty times, a perceptible cloud in a good light. It also gave a faint white ring with nitric acid, which also required a favorable light to be seen. It is possible that beyond this point a minuter trace could be detected with nitric than with picric acid. Diluted

forty times neither test detected it. I doubt, however, whether with colored urine (the dilution in this case being made with water, which of course diminished the color in equal proportion to the albumen) the nitric acid precipitate could have been any more easily seen than that with picric acid. Again, Dr. Tyson says, when speaking of the heat test, "Acetic acid is preferred to nitric for acidulating the urine, because if the quantity of albumen be small it may hold it in solution by nitric acid" (page 37). This fallacy is not avoided by the use of acetic acid unless great care is used.

A specimen of which five c.c. when acidulated with one drop of acetic acid gave abundant white flocculi on boiling, when acidulated with five drops gave hardly more than opalescence, and remained clear when a little more was added. Sulphuric, muriatic, and oxalic acids have the same action, while picric even in large proportion does not, so that it is useful as an adjuvant to the boiling test. Finally, it shows one form of albumen of which neither nitric acid nor heat give the least indication.

R. T. EDES.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JULY 21, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	754	36.39	27.46
Philadelphia	850,856	438	26.77	22.88
Brooklyn	527,830	300	29.56	24.31
Chicago	420,000	258	31.94	20.41
Boston	363,940	197	28.14	23.39
Providence	103,000	43	21.71	18.34
Worcester	52,977	19	18.65	22.00
Lowell	53,678	16	15.50	22.21
Cambridge	51,572	33	33.27	20.54
Fall River	50,372	25	25.80	22.04
Lawrence	37,626	25	34.55	23.32
Lynn	34,524	11	16.57	21.37
Springfield	32,976	13	20.49	19.69
Salem	26,739	8	15.56	23.57

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, AUGUST 9, 1877. — NO. 6.

SURGICAL INJURIES OF THE HEAD.¹

BY GEORGE JEWETT, M. D., FITCHBURG.

IN this paper I shall confine my remarks mainly to one branch of the subject, namely, fractures of the skull, with effusion of blood between the dura mater and bone.

CASE I. On the evening of September 10, 1876, William Atherton, a boy seven years of age, received a kick upon the right temple from a horse. When he was lifted from the ground, no visible signs of life were present, but after four or five minutes a slight general convulsion occurred, respiration was resumed, several cries were uttered, and partial consciousness returned. Questions were comprehended, and the lad was able to reply intelligently. Vomiting quickly came on, and in about forty minutes after the accident I found him in the following condition: He was very pale, flaccid, respiration easy, no puffing of the corners of the mouth or other apoplectic symptoms; pulse 58, soft and small. Pupils of both eyes enormously dilated and nearly insensible to light. There was no facial or other paralysis. When questioned he answered feebly and intelligently; when undisturbed he lay in a tranquil sleep. Blood had flowed freely from a wound in the right temple, but now had ceased. An examination revealed a contused compound fracture of the right parietal bone, with displacement of a fragment. When the patient was well etherized, I made an exploratory incision from the margin of the os frontis to a point half an inch above the ear, about four inches in length. The skull exposed, a contused wound on the lower anterior border of the right parietal bone was found, with comminution and displacement of some of the fragments. From this point, posteriorly crossing the upper border of the squamous portion of the temporal bone, was a fissure four inches in length, below which the temporal and lower margin of the parietal were depressed to the depth of half an inch, and firmly fixed. In fact, the depression corresponded in length to the horse's shoe, one calk having produced the contused wound, while the remaining portion depressed the base of the skull in

¹ Read before the Massachusetts Medical Society, and recommended for publication in the JOURNAL.

the region already described. Fully exposing the skull as far as I had reason to suppose the fracture extended, I removed a triangular fragment, now shown attached to the photograph, which was immediately followed by a gush of blood to the amount of about four ounces by estimate. Five or six small, irregular, pointed fragments of the inner plate were removed, several of which were discovered some distance from the opening by means of a probe. The opening having been explored with the finger and the clots removed, the brain quickly refilled the place occupied by the effused blood, and it was now apparent that the hæmorrhage had proceeded from a rupture of the anterior branch of the middle meningeal artery. The depressed temporal and parietal bones being seized with a pair of forceps, with a strong hand, the symmetry of the right inferior portion of the skull was restored. There was a single vertical cut in the dura mater, about half an inch in length; further than this there was no apparent injury of this membrane. The meningeal artery soon ceased to bleed after the application of ice. In the early part of the operation the anterior temporal artery was cut, and a pair of bulldog forceps were fastened on and allowed to remain until the operation was closed; when removed, hæmorrhage did not recur. The wound was closed, the patient placed in bed, and ice-water compresses applied every fifteen minutes. As soon as the effects of the ether had passed, the patient regained his consciousness completely.

Observation clearly showed that a reduction of the temperature below a certain point caused a partial collapse, evinced by a small and feeble pulse, pallor of face, and sighing respiration. The pupils remained large for several days, as though under the influence of belladonna. Vomiting came on, and continued at regular intervals for four or five days. The action of the brain could be observed through the opening in the skull, and its violence was controlled by the use of bromide of potassium in solution thrown into the rectum at the rate of one half drachm every six hours. By means of this agent twelve or fourteen hours of calm sleep were obtained daily. The pulse and temperature after the first twelve hours were each about a hundred. The case went on to convalescence without accident. A single fact is worthy of record. The scalp wounds healed quickly, save one small opening the size of an ordinary probe, leading to a sac of no great dimensions, which was immediately contiguous to the cut in the dura mater, from which, as it seemed, the serum from the arachnoid escaped for two or three weeks. Not the slightest abnormal condition of the brain or nervous system exists as a sequel of the accident, so far as is known.

CASE II. August 28, 1876, I was called to visit a lad eight years of age, who had received a wound in the left parietal region at its greatest convexity. The boy had fallen from a wagon, and the seat had struck his head, the injury being produced, as was supposed, by a bolt project-

ing beyond the nut. When first examined, I found a puffy tumor which seemed to contain fluid, also a slight contusion of the scalp. A digital examination convinced me that there was depressed bone. The lad was able to sit up, and even walked about without any inconvenience, answered questions readily, was impatient of interference, and cried out when the wound was examined. When not disturbed he wished to sleep, and desired to be let entirely alone. Under these circumstances I determined to explore the tumor. The patient being placed well under the influence of ether, I made a free incision to the bone, at the greatest diameter of the tumor. A large blood clot was turned out, and the cranium exposed. An oval fracture was revealed, measuring one and three fourths inches by one inch and a quarter. The margin was entirely broken away and pretty uniformly depressed, just the thickness of the skull. In the centre of this detached oval plate, at its greatest diameter, was a contused fracture, with comminution, the fragments being driven sharply in to the depth of about half an inch, the depression being the size of a finger's end. A linear fissure extended from the centre of the depression laterally to its margin, isolating the upper third; still another linear fissure extended from the depressed point downward to the margin of the greatest diameter, the lower section not being entirely separated. Carefully detaching a minute fragment with a sharp-pointed instrument, I was able to introduce the beak of a pair of narrow forceps, and to lift the upper section to its normal position. Immediately there was an abundant flow of blood, about two ounces by estimate. At the point of contusion were several fragments of the inner plate, also one or two some distance away, which were detected by means of a bent probe, drawn to the opening, and removed. The dura mater was intact, so far as could be seen, but separated extensively from the skull, having been dissected up by the hæmorrhage. The spiculæ, five or six in number, and clots being removed, I cut out of the free margin of the replaced fragment, with a pair of eating forceps, an opening large enough to retain a blade of my narrow forceps. From this opening I lifted the lower section into position. The throbbing brain immediately closed the cavity and expelled the blood remaining under the skull. I am not able to state whether the dura mater was entirely separated from both sections, but I am sure it was entirely free from the upper portion and for quite a distance around. When all hæmorrhage had ceased, the scalp was drawn together and retained in position, mainly by bandages. An opiate was given, cold compresses were applied to the region of the wound, and absolute rest was enjoined. For four days following there was but slight disturbance of the system; both pulse and temperature continued about normal. The external wound closed by first intention, and convalescence seemed established. The free use of bromide of potassium, either by mouth or rectum, both

quieted the throbbing of the cerebral mass and gave sleep. On the fifth day the lad had a severe rigor, pulse rose to 120, temperature to 102° . He experienced pain in his head, and complained that it felt large. I gave calomel and chlorate of potash in small doses, frequently repeated, and applied a poultice to the whole affected side of his head. The wound was reopened to the dura mater, about a drachm of pus escaped, and all uncomfortable symptoms subsided in two or three days. About the eleventh day after the injury he escaped the vigilance of his mother, went to the door, took cold, and had a return of the same unfavorable symptoms, and in addition great thirst and profuse sweating; he also complained that pressure on the plantar surface of his feet gave great pain in his head. There was partial anæsthesia of both feet, but on pressure there was a sensation of "numbness and pricking;" the same pricking pain extended to the lumbar region, where it was severe; thence to the head, in the region of the wound. I once more opened the wound by a probe, reapplied a poultice, which was followed by hot fomentations of infusion of hops, gave the calomel and chlorate of potash, well comminuted with sugar, in small and repeated doses, — the plan which I usually adopt in meningitis, — and in a short time convalescence became fully established.

CASE III. A few years since I was called to a neighboring town to visit a young man who fell from the high beams of a barn, a distance of about eighteen feet, and struck his head upon a plank floor. The patient was in a state of profound coma; a loud call was unheeded, nor could his sleep be disturbed by any ordinary means. Respiration was slow, without stertor or puffing of the corners of the mouth. There was no voluntary motion, no facial paralysis, no hæmorrhage from the ear or nose. The symptoms indicated a violent concussion. On the right parietal boss was observed a not very prominent tumor, with effusion into the cellular tissue in the immediate region. I could discover no fracture or indication of depression. As the symptoms were imminent, and I was not able to make a satisfactory diagnosis, I determined to explore the tumor. On making an incision to the bone, I discovered a linear fracture, which I traced anteriorly to the os frontis, and posteriorly as far as I thought best to follow it. At the greatest convexity of the parietal bone was a comminution hardly more than a fourth of an inch in diameter. The minute fragments were scarcely depressed, and seemed impacted. With care and patience I succeeded in displacing a fragment the size of a pin's head, which proved the key to the position, and the remaining minute fragments being detached and removed, the opening in the inner plate was observed to be much larger. In my endeavors to extract a fragment, I lifted the whole side of the head, showing that the fracture must have extended half-way or more around the vault. A free opening to the dura mater having thus been

made, and the opening cleared of clots, a continuous stream of blood flowed from the wound, amounting to eight or ten ounces by estimate. The hæmorrhage continued for some hours, threatening a fatal result. The probe indicated an extensive separation of the dura mater, which seemed intact. I had the head placed on the injured side, to facilitate the escape of fluids, and after some hours the hæmorrhage ceased, consciousness returned, the patient made a good recovery, and no permanent injury was observed.

In this case the symptoms of concussion masked those of compression. The lucid interval which marks the subsidence of concussion and disappears on progressive pressure, the pathognomonic symptom of hæmorrhage, was wanting here. The opening, although small, proved sufficient for all purposes, and the shock and danger of trephining were avoided.

The results of external violence to the head depend much upon the thickness, elasticity, and density of the skull. Professor Gross speaks of one in his possession, averaging half an inch in thickness, hard as ivory, and with scarcely a trace of a suture. Such a skull could hardly be crushed by any force which might be brought to bear upon it. I have one of an adult, only three sixteenths of an inch in thickness, and with no perceptible diploë. Others are hardly a line in thickness, and exceedingly brittle, although this property is not peculiar to thin skulls.

The elasticity of the skull can be easily demonstrated by throwing a fresh one upon the floor and observing the rebound. Owing to this physical condition we have local contusions of the brain without fracture of the skull. As an illustration I will cite the case of a woman found dead from violence. The commonwealth requested me to make an autopsy. I found upon the scalp seven contused wounds, pretty evenly distributed over the sides and vault of the head. In no place was the skull exposed, nor did the injuries seem severe. Upon removing the calvarium I observed seven well-defined patches of extravasated blood under the arachnoid, each exactly corresponding to a wound upon the scalp, but larger in extent. The gyral spaces were filled with clotted blood, the convolutions were contused, and the pia mater more or less broken up. In this case the blow was transferred directly to the brain, producing fatal lesions without fracture of the skull, and but slight injury to the hairy scalp. Death evidently had not been *immediate*, but how long the victim had lived after the injuries could not be known.

At the same time and place, and probably by the same person, animated by the same diabolical purpose, and with the same instrument, a sister came to her death by blows. All the bones in the right side and base of the skull were extensively fractured, and some of them were much displaced; yet hardly a trace of injury was observed in the sub-

stance of the brain. The force of the blows had been spent upon the skull alone. The appearances indicated that death was instantaneous. I attribute the contrast in the traumatic lesions in these two cases to the opposite properties of the skulls.

The night following the battle of Antietam, the regiment to which I was attached lay down to sleep in the road. A squadron of cavalry, unaware of our position, charged over us. A sleeping soldier was struck near the vertex by the shoe of a horse, and received a punctured wound, in which the bone was depressed, just the size and shape of the calk. As it was a well-marked contused fracture, although signs of compression were wanting, it was thought best to operate, and I applied the trephine. The inner plate was badly splintered, and a single fragment was detected by a probe and removed from between the dura mater and bone, a point a short distance from the seat of injury. There was no hæmorrhage, nor were the membranes or other tissues wounded. The wound was closed and the patient removed to the general hospital in a comfortable condition. I have been unable to trace the subsequent history of the case, but the records at the adjutant-general's office show no death from wounds of the head in that regiment during that period.

In the cases of contused fractures cited, there has been one condition uniformly present, namely: the inner table has been broken into a number of small fragments, most of them with sharp edges, and in all the cases under my observation one or more pieces have been found a short distance from the seat of injury. This is a practical fact of great value. What then becomes of these fragments if allowed to remain? Professor Gross states that they *never* become encysted. A bullet or other foreign body may become encysted, especially if it has passed the cortical surface of the brain; but fragments resting upon the membranes of the brain are always a source of danger, and often result in fatal meningeal disease. "The lymph effused around spiculae of bone is incapable of organization, and frequently acts as a foreign body, likely to bring on a train of symptoms ending in death," or, what some might think worse, confirmed epilepsy. For a hundred years and more, authors have generally attributed the much more extensive splintering of the inner table to its greater brittleness; some to the direction of the force and to a variety of other reasons, none of which is the true one. Mr. W. F. Teevan, of London, was the first to demonstrate that it occurred not from the brittleness of the inner plate or any of the reasons usually assigned, but in obedience to a well-known physical law, namely, "that fractures always begin in the line of extension and not that of compression." He showed that violence applied to the inner surface of the skull may produce fracture of the external table only, without any lesion whatever of the inner table; and the same degree of violence applied to the external surface may produce fracture of the internal table

only. This is illustrated by the familiar instance of the cracking of a thin sheet of ice under pressure. Numerous fissures are seen on the under surface, while none are observed on the proximal surface; if its continuity is destroyed the fissure always commences on the distal surface. Mr. Teevan further illustrates by the fact "that in bending a stick across the knee it begins to break at a point opposite to the spot where the knee is applied." In the bent stick the atoms along the proximal curve, at which pressure is made, are brought nearer together or compressed, while the atoms along the distal curve are extended or separated; the rent is finally made *exactly opposite* the point where the greatest pressure is exerted. Thus, in a fracture of the skull by a blow from the outside, the fracture will always first start on the inner side, and, as in the cracking ice, may not extend completely through the wall, thus producing the rare result of a fracture of one plate only, and that of the plate opposite the spot where the blow was struck, whether it was from within or from without. Mr. Teevan states that he has no difficulty in producing, by slight blows with a hammer on the outer or inner surface of the calvaria, fissures or stellated fractures of either table at will.

In cases of suspected fracture of the inner table only, Stromeyer advises that the part be explored by carefully percussing the cranium with a silver probe. As the probe enters the region of fracture the sound given is of a somewhat higher pitch.

Dr. Otis, in his Surgical History of the War, states that of twenty known cases of fracture of the inner table only, but one survived, and in this instance there was necrosis of the outer table, which released the fragments within, the whole process of cure having been completed in a little more than six months.

You will observe that the three cases first cited were all well-marked instances of compression from extravasation of blood within the cranium and between the dura mater and bone. In the first, it was demonstrated that the hæmorrhage proceeded from the anterior branch of the middle meningeal artery. The fragment extracted had a sharp edge, which was in immediate contact with the artery when the scalp was removed, and no doubt was the cause of the arterial hæmorrhage. The feeble, slow, and soft pulse, great pallor of countenance, and imperfect respiration are the usual prelude to death by compression, which is generally sudden. Mr. Hutchinson records a similar case of a lad who, while under consideration, with the same class of symptoms, suddenly and without tremor or convulsion died. In the case of the young man who had fallen from the high beams of the barn, death was imminent, as I believe, from hæmorrhage of the posterior branch of the middle meningeal artery, although it is possible that the blood might have been poured out from the numerous small arteries which pass

from the dura mater to the skull. Some two hours had elapsed after the accident before the operation.

In Case II. we have a double fracture. First came the blow from the projecting bolt, making the ordinary contused wound, "the size of a finger's end," with several sharp fragments of the inner plate, one of which doubtless wounded a small branch of the middle meningeal artery; then came the violence from the larger surface, crushing in a plate of bone, the size and shape of which has already been described. In this case we have the slight compression of the displaced bone, which, although quite large, yet in the earlier history of the wound produced no symptoms whatever. Locomotion was not impaired, and there was no disturbance of the functions of the brain. It was only after about an hour that he grew peevish, with evident symptoms of approaching coma, indicating the somewhat gradual extravasation then going on between the dura mater and bone. The amount of blood (about two ounces) found under the depressed bone has been known in like cases to cause death in about four hours. At the moment of the operation bleeding was still going on, and had there been no relief it might have produced death in even less time.

The cases cited above show the necessity of prompt surgical interference in traumatic hæmorrhage within the skull.

We may now properly inquire what becomes of blood effused under these circumstances if not removed. Prescott Hewett states that small quantities are sometimes absorbed. Larger quantities produce death by squeezing the brain, thus forcing out the arachnoid fluid, leaving the membranes dry and the functions of the brain suspended from anæmia or from inflammatory processes in the encephalon. Dr. S. W. Gross says he has failed, after careful search, to find the history of a single case of effusion between the dura mater and bone where the changes in effused blood have taken the same course as like effusions in other parts of the body. The coagulum usually becomes putrid, thus producing irremediable inflammation of the brain and membranes. Dr. Gross still further states that in fourteen cases in military practice which he had collected, two of which were his own, where the trephine or other operative interference was employed, with the result of fifty-seven per cent. of mortality, he could not ascribe death in a single instance to the operation. The main objection urged against operative interference is the danger from exposure of the dura mater to the air, and consequent inflammatory products; but should this occur there is far more hope of controlling it than when there is no opening for the escape of the secretions. In Case II. well-marked inflammation of the membranes occurred twice, with purulent secretion, but was quickly relieved by ordinary means.

My own observation leads me to the conclusion that in a large per-

centage of contused wounds of the skull the trephine is wholly unnecessary, and I believe it is seldom that minute fragments may not be separated by an awl, chisel, or some other instrument which the peculiarities of the case will suggest at the moment, and the trephine be avoided.

Dr. Holston, U. S. V., strongly recommends the use of a chisel with a projecting blunt tooth, which protects the membranes from the edge of the chisel. The sharp edge will cut cleaner and with less irritation than the saw, the teeth of which tear the tissues and give almost as much shock for every tooth as the chisel and mallet do at every blow.

If we turn to the text-books for aid in making a differential diagnosis in traumatic injuries of the head, we shall be led to great confusion and perplexity. Whatever the statements and conclusions of any one writer may be, they are sure to be contradicted, and the opposite plan advised by another of equal eminence. These varying opinions among the great lights of surgery lead us to the humiliating conclusion that we have as yet no established science in this branch of surgery.

Huguenin, in an article in Ziemssen's *Cyclopædia*, nearly discards all operative interference. He admits the propriety of trephining in cases of hæmorrhage from the *arteria meningea media*, when there is no doubt; that is, "when symptoms of pressure first appear some time after the injury, and steadily increase up to a certain pitch. The symptoms (unilateral paresis) and the nature of the injury must at all events confirm the diagnosis." In the three cases I have presented there was no unilateral paresis, — in one, profound insensibility from the moment of injury, — nor is this symptom, which the author regards as pathognomonic, present in a large percentage of recorded cases.

The orthodox doctrine of unilateral paresis, that the paralysis is always on the opposite side from the lesion, is well combated by Brown-Séquard, who states that he has collected more than two hundred cases where the paralysis is on the same side as the brain lesion.

If we review the cases so clearly and forcibly narrated by Hutchinson, one of the best recent writers upon this subject, we shall find from his own showing that in every instance he waited for an autopsy to confirm his opinion that an operation was required. In two cases this distinguished surgeon finally determined to trephine; but unfortunately both patients died before the operation was begun. In one of his lectures he makes this remarkable statement: "The modern annals of surgery do not, as far as I am aware, contain any cases in which life has been saved by trephining for this state of things," that is, for effusion of blood between bone and *dura mater*. Very different are the conclusions of Dr. Gross, who, reviewing the fourteen cases before alluded to, writes thus: "The teachings, therefore, of these cases lead to the conclusion that, when compression of the brain is dependent

upon the extravasation of blood between the dura mater and the skull, the latter must be opened in order that the clot may be turned out, and that to be of any avail the operation should be practiced at once, since when stupor, convulsions, and hemiplegia arise, after the case has had time to run through the different stages of inflammation, they are due to irremediable suppurative inflammation of the pia mater and arachnoid, or to abscess of the brain, or to a combination of both these conditions."

Here I believe is the secret of the failure of the operation in many cases: it is too late. While the surgeon waits for more urgent symptoms, he waits till Death steps in before him.

SCARLATINA VERSUS DISINFECTION.

BY JOHN L. SULLIVAN, M. D., MALDEN.

THE following history illustrates the difficulty of extinguishing the contagion of scarlet fever, as well as that of determining the period when the disease ceases to be communicable by the patient or his surroundings:—

On November 1, 1876, a girl, aged six years, one of a family of three children, during the temporary absence of her elder sister and brother, was seized with scarlatina anginosa. The case terminated favorably after running a severe course. On the 28th the child seemed perfectly well. Desquamation had ceased; her skin had been cleansed as thoroughly as it could be by repeated ablutions of warm water and soap, and the liberal use of vinegar and carbolic acid solution.

In the mean time the absentees had held no communication with home, and, as a further precaution for their safety, it was deemed advisable to try to disinfect the premises, and possibly to expel the contagion before their return. This was carefully done under my immediate supervision. One after another all the apartments of the dwelling, including the halls, were filled with fumes of burning sulphur, as dense as could be generated by the rapid combustion of large quantities of that substance moistened with alcohol, and in this state were kept closed for several hours. Doors and windows were then thrown wide open and the air allowed to sweep through the house until the sulphurous smell had been dissipated. Beds, blankets, and other woolen fabrics that had been worn or used by the patient or her attendants were spread out in one of the closed rooms and exposed for a long time to the action of the sulphurous vapor and afterwards for more than twenty-four hours to that of the out-door air, at a season when the weather was boisterous. All washable articles were "scalded out" in boiling water, washed in strong soap-suds, and dried on the clothes-line in an

adjoining yard. Lastly, the walls and ceiling of the chamber occupied by the patient were whitewashed. In short, no pains were spared to insure the complete purification of every nook and corner of the domicile, as well as of everything it contained.

On December 1st, thirty-one days from the date of the appearance of the disease, one of the absent children, the eldest, also a daughter, returned home, owing to unforeseen circumstances, a fortnight earlier than had been expected. She was strictly prohibited from entering either the story of the house or the room in which her sister had been confined; and although in the day-time the children were suffered to play together, at night they were separated. December 15th, just a fortnight after her return, she came down with scarlet fever of a less severe type than the previous case. After her recovery, which was speedy, the same processes of cleansing, fumigation, etc., were repeated with, if possible, greater thoroughness than before.

January 14th, thirty days from the date of the second outbreak, the third and youngest child was brought back. Nine days later, on the 23d of the same month, he was attacked with greater severity than either of the others, but after a dangerous and protracted illness he, too, recovered.

The occurrence, shortly afterwards, of a fourth and last case, the patient being the mother of the family, may be mentioned, although having no direct bearing upon the subject of this article.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.¹

BY D. H. HAYDEN, M. D.

*On the Treatment of Chorea.*²—In the last volume of the *Medico-Chirurgical Transactions* the author³ gave the results of a series of observations upon the morbid anatomy of chorea, the inference drawn from them being that the disorder is not a mere accident of embolism; that the cardiac disturbance so often associated with the nervous lesion is always of later date and obviously secondary to it; and that the disease has its rise in the nervous centres, where the first visible change is vascular distention, closely followed by extravasation and by the several tissue changes which congestion and extravasation produce. The conclusion that chorea is primarily a nervous and not a vascular disorder is consistent with its relationship to other neuroses, its occurrence in the families of the epileptic and insane, and the proclivity to it which is displayed by children of nervous mobility, such as are bright, sensitive,

¹ Concluded from page 131.

² *Lancet*, January 6, 1877.

³ W. H. Dickinson, M. D.

imaginative, and timid. In a large proportion, too, certainly in not less than a fourth, the origin of the disease is immediately traceable to some mental emotion, commonly fright, without the coöperation or concurrence of any other circumstance to which the attack could be attributed. The other great cause of chorea, which acts with about the same frequency as fright, is rheumatism. Of seventy cases of the disease at the Hospital for Sick Children rheumatism was found to be involved in the antecedents of twenty-eight, and in half as many it was unequivocally associated with the chorea as its cause. Thus chorea is to be ascribed to two causes so different in their nature that we can but wonder at their producing the same result. Rheumatism, when a cause, is almost always accompanied with endocarditis, and hence has arisen the theory of this disease being one of the results of embolism,—irritation of the nervous centres by particles of fibrine swept into their vessels from the diseased valve. This ingenious theory, applying only to rheumatic chorea, is unsuited to explain the disease when arising under other circumstances, and is inconsistent with both pathological and clinical observation.

With regard to treatment, it might be conceived that if there existed shreds of fibrine in the cerebral or spinal arteries, the result of embolism, there would be hope of dissolving or acting upon them by agents introduced into the blood. We might hope much from alkalies, which the author believes control the endocarditis of rheumatism, and which might reasonably be expected to modify its embolic consequences. These are useless in chorea. This disease must therefore be dealt with neurotically, though constitutional treatment is often more effectual than special. In severe and acute cases, where the patient is worn out by incessant movement and want of sleep, liberal feeding, stimulants, and the means of procuring timely slumber—the bromides, opium, or chloral—may enable the patient to tide over a period of mortal peril. Next comes the use of bodily restraint. The violent and erratic movements of chorea appear to be one mode at least by which the exhausting effect of the disease is produced, and the improvement which follows upon mechanical control suffices to show that some of that effect is due to the actual movement, while, perhaps, some may be attributed to the muscular attempt which the bandage makes futile but does not arrest. Restraint is important also in preventing the excoriation and sores which the jactitation causes, and which may contribute perceptibly to the typhoid prostration which is one of the worst phases of the disease. A sufficient measure of controlment may be obtained sometimes by merely tying the feet together and firmly fixing the upper sheet. A more effective method is an embankment of pillows along each side of the bed, closely adapted to the patient, who lies in the trough between. In extreme cases it may be necessary to secure the

limbs with splints. A well-padded splint, such as is used in hip disease, reaching from the axilla to the ankle, is placed along each side of the body, with the arm bandaged to the outer and the leg to the inner aspect. The child, except that he can still make faces, has little more power of movement than a mummy, and resembles a Swiss baby within its encasement, which can move nothing but the eyes. Anything which causes alarm or distress is to be scrupulously avoided, but the agitation of the limbs is in itself a source of great discomfort, and any gentle means of preventing it is usually acceptable to the patient.

In less severe cases mere rest in bed will do much. Chorea will almost always improve up to a certain point, sometimes to recovery, under the simple influences of rest and time. These, and now and then a purge, may be all that is needed. Constipation belongs to several nervous disorders of which chorea is one, perhaps rather a result than a cause; nevertheless purging does distinct good, and sometimes is the only medicinal process needed.

In the acuter forms of the disease the author gives the first place to sulphate of zinc. Oxide of zinc stands next in the order of efficiency. To be of use it must be taken in large doses. A grain of the sulphate may be given three times a day, or in very severe cases more often, and a grain added to each dose every day until the dose amounts to between fourteen and twenty-six grains. Thus administered and sufficiently diluted it causes no sickness nor any prominent effect but the abatement of the jactitation and grimace. A scruple or rather less is commonly sufficient, but much more may be given. In an exceptionally severe case, of which the subject was a girl of seven, a dose was given which at last reached forty-five grains three times a day, or one hundred and thirty-five grains in the twenty-four hours, and with apparent advantage. Under this the child became able to talk, feed herself, and walk, none of which she could do before. The larger amount passes off by the bowels, and probably but a small proportion is absorbed, though from the greater effect of large doses upon the nervous system than of small it is probable that the quantity taken up bears some relation to the quantity swallowed. It may be said that a course of treatment which lasts necessarily a fortnight secures *time* as its ally, in acute diseases no unimportant auxiliary. But chorea is a disorder of indefinite duration; the zinc may be begun at any period until the acute form has merged into the chronic, and the author has often been able to assure himself that recovery dated from the beginning of the remedy and not from the beginning of the disease. An early effect of the zinc has been recognized in a peculiar brightness and clearness of complexion, to be succeeded, if the drug be long continued, by marked anæmia. It is hence occasionally advisable to associate with the zinc an unaugmenting dose of sulphate of iron. With the

subsidence of the chorea the zinc may be gradually withdrawn and the iron at last continued alone or with the addition of quinine. Another salt of zinc, the valerianate, is of especial use : it is suited to cases of a type not sufficiently acute to require the sulphate, and to those by no means infrequent instances in which the attack has with it some of the characters of hysteria.

Next to the salts of zinc, and often to be preferred to them, come those of iron. Where there is evident anæmia, iron in some shape should be given from the first. Zinc does best with florid children, iron with pallid ; zinc when the symptoms are acute, iron when they are chronic. Good results have been met with from the syrup of the bromide of iron ; and the valerianate, like that of zinc, may occasionally be resorted to. In the more lasting and slighter forms, where perhaps an occasional twitch or grimace or some awkwardness in the limbs is the only sign of the disease, arsenic, as a nerve tonic, in small and long-continued doses, is of service, and a similar statement may be somewhat more emphatically made with regard to strychnia, particularly if this alkaloid be given together with iron. Thus for the slighter and more lasting forms of the disorder, the pharmaceutical remedies are iron, arsenic, and strychnia ; often iron together with one of the others. Strychnia, like iron, may be advantageously given as a bromide in the liquor strychnia bromidi.

The lingering remains of chorea call as a rule for general tonics, and among such perhaps the most effective is change of air ; there is, indeed, no disorder in which a temporary exchange of town for the country or the sea is more decidedly curative. Where chorea is much mixed with hysteria, as we see sometimes in developing girls, the treatment must be correspondingly modified. Electricity and shower-baths are sometimes in these circumstances useful adjuncts, though with simple chorea such agitating measures could scarcely fail to be mischievous.

Regulated movements, as drilling or dancing, have been recommended. The author has often suggested dancing, and thought that it did good, the influence exerted by rhythmical sounds upon the voluntary muscles being very striking. The author's experience with belladonna, calabar bean, conia, and codeia has never been such that he was able to assure himself that the patients would not have done equally well without them.

*Contributions to the Therapeutics of Children's Diseases.*¹ — Professor Abelin, of Stockholm, gives in this article the results of his experience in the use of certain remedies in the treatment of children.

The author employed salicylic acid in the foundling wards of the General Hospital, Stockholm, since July, 1875. This remedy was specially given in cases of diarrhœa, where the stools were very offen-

¹ Schmidt's Jahrbuch, No. 2, 1877.

sive and putrid, in doses of three quarters of a grain to a grain and a half several times daily in an emulsion. No other effect was ever obtained (and he had used it in a very great number of cases) than perhaps a slight diminution of the offensive odor of the stools, and it is far inferior to many other remedies. In the greater number of cases in which it was used there ensued severe inflammation of the kidneys, followed not seldom by anæmia and death. In addition there was invariably more or less collapse.

As an antipyretic, salicylic acid produces more decided effects, but it is not well tolerated by the stomach when given in the large doses required to bring down the temperature one to two degrees. Moreover, the remedy exercises no appreciable influence upon the course and symptoms of the disease. In doses of fifteen grains, salicylic acid acts as a violent poison in infants. By such a dose there is a rapid falling of the temperature three degrees, or even more; but at the same time there is produced a general and fatal collapse. Such a case the author reports in full. When by smaller doses the temperature is reduced in febrile cases, as a rule the reduction is only temporary, the temperature returning after a short time to its former height; and the author never saw any effect produced by it upon the course or symptoms of the disease. Externally, Professor Abelin had applied salicylic acid partly in solution in the treatment of ulcers and erysipelas, partly in the form of ointment (one part salicylic acid, three parts alcohol, fifteen to thirty parts fat) in chronic skin diseases, especially in eczema impetiginodes of the face and head. Although the number of cases was too small to speak decidedly as to the merits of the remedy in such cases, yet his experience, as far as it went, was that it was of no value at all, except that in the cases of eczema capitis the eruption disappeared as long as the salve was used, but reappeared as soon as it was discontinued.

According to Professor Abelin, therefore, salicylic acid can be administered only to a very limited extent in the treatment of children's diseases, and for the reduction of temperature other remedies less dangerous should be substituted.

Salicylate of soda had proved a more efficient remedy. The author had employed it in solution in the proportion of one to two parts of the salt to thirty parts of water and three parts of extract of licorice, giving, according to the age of the child, three or four teaspoonfuls in the course of two to three hours. The remedy in this way is easy of administration, and always after the dose reduces the temperature from one to three degrees. The result is, however, always but temporary, and to hold the temperature down the medicine must be given in this manner two or three times daily. The medicine, too, seems to lose its effects when given for a long time in the same individual. This remedy, according to Professor Abelin's experience, exercises no more in-

fluence upon the course of the disease than the salicylic acid; but its depressing effect is much less and only of a transitory character, and as with salicylic acid, in many of the cases where it is used albuminuria is observed after its employment.

Carbolic acid was tried by Professor Abelin in the form of compresses and by subcutaneous injection in erysipelas migrans of young infants. This method of treatment was found to be without effect, and since a case of poisoning with fatal results happened to him he has abandoned it.

Chloral hydrate has proved in the author's hands a most valuable remedy, not only for purposes of procuring sleep and relieving pain, but also in convulsive diseases, as trismus and tetanus neonatorum. Most cases of idiopathic convulsions in Professor Abelin's experience can be cured by chloral hydrate. Symptomatic convulsions can at least be much relieved, and by this remedy an outbreak can be prevented. Many cases of violent and obstinate vomiting, where other remedies had failed, were checked by the use of this remedy in the form of clysters. When possible, Professor Abelin has always given chloral hydrate internally, and uses clysters only when the former method is impracticable. The dose for young infants is three to four grains; when two to three months old, six grains; when four to six months old, seven and one half grains; when six months to one year old, nine grains; when between one and two years of age, eleven to fifteen grains; when between two and four years, fifteen grains; when between four and eight years, fifteen to twenty-two and five tenths grains, when between eight and fourteen years, twenty-two to twenty-six grains. Professor Abelin has never seen any ill effects from the use of this medicine.

Lukewarm baths in diseases accompanied by high temperature Professor Abelin has employed for sucklings as well as for older children. In cases of acute gastro-intestinal catarrh, with marked increase of temperature, the antipyretic action of these baths in his hands has been a remarkably quick and certain one, with which no other remedy could be compared. Professor Abelin has convinced himself not only that they can be given without any ill effects, but that also they are recommendable as a method of treatment conveniently and easily administered. As administered by him the duration of the bath is from ten to fifteen minutes, the temperature at the beginning being 93° to 95° F., and gradually reduced by the addition of cold water to 90°.

Professor Abelin speaks in high terms of the mineral waters of Ronneby, which contain iron, as being admirably suited for infants. It is necessary to give them in small doses, owing to the large proportion of their solid ingredients. They are rich in sulphates, particularly in sulphate of iron and of alumina. These waters have a very salutary effect upon the increased and altered secretion of the intestinal canal,

acting at the same time as a tonic. It is an excellent remedy in chronic intestinal catarrh in infants, and can be given alone or with milk. The dose for sucklings is a teaspoonful, for children from one to four years of age a dessertspoonful, or even more. As a rule, there is decided improvement after eight or fourteen days, and generally complete recovery takes place in four or five weeks. Attention to diet is also necessary. The use of these waters does not forbid the simultaneous employment of other remedies that may be indicated, as cod-liver oil, etc.

PROCEEDINGS OF THE NEW ENGLAND PSYCHOLOGICAL SOCIETY.

B. D. EASTMAN, M. D., SECRETARY.

THE New England Psychological Society held its quarterly meeting at Worcester, June 26th.

DR. TYLER, the president for the ensuing year, read a paper on Melancholia, selecting this subject because of the great frequency of cases of this form of mental disease. After describing the several stages and varieties of melancholia, he remarked that suicidal impulse was the logical and almost invariable sequence of morbid depression. He wished to convey this belief in the strongest language of which he was capable. No denial on the part of patient or friends should be taken as evidence of its non-existence; that the suggestion, if not the impulse, was there, and should not be disregarded. He gave repeated instances of unexpected suicides and of unusual methods of suicide indicating persistency, desperation, and insensibility to suffering.

Dr. Tyler's address excited an animated discussion of the question whether suicidal impulse is a necessary and essential part of melancholia.

DR. EARLE had not been in the habit of so considering it.

DR. STEARNS thought cases were certainly met with where no evidence of suicidal impulse could be detected. Suicide also occurred sometimes in patients whose state of feeling was habitually cheerful. These acted under a belief in divine direction sometimes, or from some inexplicable insane motive.

DR. WALKER agreed with Dr. Tyler that suicide was the logical sequence of depression, and the tendency, he thought, existed in most cases, though it might be concealed or repressed. He gave instances of the astonishment on the part of friends when the confession of intended or attempted suicide was elicited. He believed there were very few cases in which the suggestion did not occur.

DR. GODDING always warned friends that simple melancholia might at any time change to suicidal. He thought that a great safeguard against suicide was the constant presentation of the hope of recovery, and had found acute melancholia less curable than acute mania; but when both have become chronic, melancholia gives most recoveries.

DR. FISHER spoke of the great prevalence of suicide in Boston. He thought that an epidemic, born of the hard times and business reverses, prevailed quite extensively in large cities. Paris at present furnishes six suicides

daily. He believed the suicidal impulse to be an almost constant symptom in melancholia, as much so as diarrhœa in typhoid fever. It is not the earliest symptom, and some cases may recover before it is developed; but it is still an early symptom, and quite constant in a fully developed case. It should always be presumed to exist. The important question in mild forms of melancholia, seen oftenest outside of the hospital, is how to protect the patient without exciting to activity, by fixing the attention on it, the very symptom it is desirable to suppress.

DR. EARLE said he had made a collection of a hundred cases of suicides, taken from three or four newspapers, in the last five months.

DR. EASTMAN spoke of the evil results growing out of newspaper accounts of suicides, in view of the well-known contagious effect of such examples.

DR. BANCROFT had noticed that the indications relied on by friends as showing absence of suicidal tendencies were untrustworthy. He alluded particularly to the patient's apprehension of death as presenting no safeguard against suicide.

An hour was spent in business discussions, and at the evening session DR. GODDING read an exceedingly interesting memoir of a boy sent to Taunton Hospital two or three years ago, who had shot a schoolmate, and was suspected of being insane. The history of this boy's moral insensibility, of his duplicity, his frequent ingenious escapes, his travels, his repentant letters and voluntary returns, his parole unbroken for a year, his last elopement and final return from Montreal, only to be found killed by his own hand the next morning, made an account of extreme interest. (This paper will probably be published in the *American Journal of Insanity*.)

Dr. Godding was satisfied of the boy's insanity, but declined to give it a name. There was admitted self-abuse, with paroxysms of excitement and destructive fury, which the boy ascribed directly to previous increase of the habit. There were real or pretended lapses of consciousness, but no epilepsy could be affirmed in the case. The boy was an excellent scholar, wrote voluminous letters with Latin quotations, and no intellectual aberration occurred even in his periods of excitement.

The discussion of this paper was desultory, consisting of questions tending to elucidate the case.

DR. FISHER suggested its resemblance to that of Jesse Pomeroy, even the letters of each being in the same inflated style.



HOMŒOPATHY.

THE time-honored discussion of homœopathy has been revived once more, owing to the action of one of that sect in London, lately, both by the daily papers and the medical journals. The former have assumed their customary lofty tone, as of the parent to erring children, and, as usual, have failed to get at the merits of the case or even to perceive the true point at issue. The position taken is ordinarily somewhat thus: a controversy is supposed to exist between two "schools" of medicine; one, the old and conservative party, is

struggling against the innovations of a new school, whose doctrines have considerably modified the practice previously in vogue, but whose views are nevertheless ignored, and who is constantly abused and misrepresented by a rival who feels the influence of its growing power. Naturally enough the so-called "regular" medical profession is counseled to give the other "school" a chance, to admit it to fellowship on equal terms in the true spirit of progress, and any unwillingness on its part to accept this advice is looked upon as evidence of an innate illiberality and petty jealousy, which, like other such absurd notions as medical etiquette, seems somehow to have been inoculated into the physician from the moment he takes his degree, and completely to infect his moral system from that time forward, no matter how wide and liberal may have been the surroundings of his previous life.

To those who hold these views, which have been launched with great persistence against the Massachusetts Medical Society, we would point out the attitude assumed towards this and kindred matters by physicians of this State, and indeed by all, everywhere, worthy of the name.

Owing to the power exerted by faith in matters medical as well as spiritual, the science of medicine has, from its earliest history, been a prey to those adventurers who greedily take advantage of the opportunity which it gives them to open their way by an easy path to fortune. The strongest instinct of the true physician has always been that which holds him free from any suspicion of connivance at the practices of men who use their power unscrupulously. Again, the uncertainties of medical practice are such, and the improvements which science has made during the present century are so great, that we are justified in hoping for greater light in the future. It behooves us, therefore, to place the student in possession of such facts as the progress of the day enables us to, leaving him entirely free to apply them in practice in such a manner as his judgment dictates. He is at liberty to use any drug or any dose that, in his opinion, will help his patient. It is by such liberty of action in the past that individual enterprise has been able to contribute largely to our knowledge of disease and its treatment. To hamper action by making obstructive laws is to fly into the face of experience and to bar the way to future change and progress.

Any system, however plausible, which does not allow this freedom of action is not, then, in accordance with the spirit of the age, and entails upon its supporters the suspicion of acting from selfish motives rather than from a love of science and improvement. This suspicion is greatly strengthened by the observation that affluence and power attend the efforts of its votaries who would otherwise suffer the fate of mediocre men, but who thus skillfully handicap their rivals in the race for fortune. Believing, as we do, that homœopathy is not founded upon a scientific but rather upon a lucrative basis, we do not feel ourselves called upon to accord it that recognition which would be extended cheerfully to a legitimate enterprise, content to give us facts unhampered by theories which base their support upon the applause of a public incapable of judging their merits rather than upon the indorsement of scientific men.

MEDICAL NOTES.

— *The Practitioner* for June, 1877, contains a paper by Dr. Debout d'Estées on the causes of gravel. Of 1028 patients affected with uric-acid gravel the author was able to ascertain the principal cause of the disease in 528 cases. These causes were: hereditary in 191 cases; disorderly digestion in 160; excess of food in 101; sedentary life, want of exercise in 95; violent moral emotions in 35. With regard to the effect of some vegetables, namely, asparagus, sorrel, tomatoes, and green beans, in the production of uric acid, he found the absorption of asparagus in some twenty per cent. of the cases to be followed by more or less violent pain in the loins, and sometimes by nephritic colic. He thinks asparagus does not produce uric acid, but that it determines temporary congestion in a kidney which already contains some red sand, facilitates the agglomeration of it, and may produce the formation of gravel.

Sorrel, green beans, and tomatoes act differently. They less frequently produce pain in the loins, but their absorption is followed by an emission of uric acid.

The causes which produce oxalic gravel are much the same as those producing uric-acid gravel, merely adding the absorption of victuals containing oxalate of lime, — sorrel and tomatoes in particular.

There is a primary and a secondary phosphatic gravel: the former is principally composed of phosphate of lime, with carbonate-of-lime urates and alkaline phosphates; the latter consists especially of ammoniaco-magnesian phosphate.

The primitive phosphatic gravel is especially met with: (1.) Where persons being anæmic, in consequence of a real mal-assimilation, their organic materials allow the mineral matter of their economy to deposit. (2.) It may be met with in individuals affected by a lesion of the nervous system presiding over the eliminating functions of the kidney. (3.) Exceptionally it is met with amongst patients suffering from the uric diathesis, where red sand and acid urine alternate suddenly with a deposit of phosphate of lime and carbonate of lime in neutral alkaline urine. Phosphate of lime may occur in acid urine, but then the urine is generally less acid than normal urine.

Secondary phosphatic gravel is produced: (1.) When there is fermentation of the urine before its evacuation. (2.) When the abuse of energetic alkalines or an exclusively vegetable diet has made the urine alkaline.

The ætiology of carbonate-of-lime gravel is obscure.

Attacks of nephritic colic differ according to the varieties of gravel.

With uric-acid gravel the pain caused by the kidney gravel is not well localized by the patient. It often settles in the side, sometimes in the lower part of the abdomen, which explains the errors of diagnosis easily committed under similar circumstances, hæmaturia being the exception rather than the rule.

In the oxalate-of-lime gravel the symptoms are the same, except that there is always hæmaturia.

In phosphatic kidney gravel there is no hæmaturia, the pains are less excruciating and the fits less acute, but they are of much longer duration.

— Under the title Pneumonic Fever, Dr. Austin Flint communicates to *The Medical Record* of July 14, 1877, a paper giving his reasons for considering acute pneumonia an essential fever, and not purely a local inflammation. The grounds for this supposition relate to the morbid anatomy, ætiology, clinical history, and treatment of the disease. The points regarding its morbid anatomy are the quantity of the exudation and its probable derivation from the blood in the branches of the pulmonary artery; the removal of the exudation by absorption; the extension over a lobe by degrees; the invasion successively of a second and third lobe in a certain proportion of cases; and the laws of the disease to invade the lower lobes of the lungs. Ætiology furnishes in support of the doctrine advanced, first, that the local affection is never produced by local causes; and, second, that all the knowledge which we at present have of the causation is in favor of its being constitutional. The clinical history of the disease shows a chill, a quickly rising and often intense fever, which, during the course of the disease as represented by temperature and other symptoms, has no uniform relation with the pulmonary affection.

Certain drugs — the sulphate of quinine in particular, given in large doses, from twenty to forty grains daily — seem to exert a curative effect on the disease from a controlling influence on the pyrexia. In conclusion, Dr. Flint defines the disease as follows: —

“It is a fever characterized anatomically by an abundant exudative deposit in the air-vesicles of a single lobe, or of two, and sometimes three, lobes of the lungs, with, in general, circumscribed bronchitis and dry pleurisy. It is a fever which rapidly reaches its maximum of intensity, and has a short career, the duration averaging about eleven days. It proves fatal chiefly in consequence of associated diseases, complications, or accidents, and the mode of dying is by asthenia. It is non-communicable, and depends on a cause, or on causes, specific in character, the nature of which is at present unknown, but having relations to season and climate. It sometimes aborts spontaneously, and it is in some instances arrested by remedies. If not arrested, it may be favorably modified, its duration abridged, and the danger to life diminished by treatment addressed, not to the pulmonary affection, but to the fever.”

— Vaccination is said by *The Lancet* to be greatly appreciated by the Chinese, especially in the southern part of the empire, and in the southern part of the Island of Formosa. The rule in China has been inoculation, but in the parts we have mentioned vaccination is preferred, and it is so prized that the people are willing to pay for it. Chinese medical students that have been trained by Dr. P. Manson, of Amoy, are frequently called upon to vaccinate Chinese children. Some of these, with others that have had no special training, find it a profitable employment to go round the country from village to village for the simple purpose of vaccinating. They charge from fifty cents to one dollar, and it is said that some of them gain enough from a few months' practice to support them for the rest of the year. Such intelligent appreciation of the value of an innovation on the part of a very conservative people is interesting, and may well be taken as a rebuke by the enemies of vaccination in civilized countries, who hail with delight any stray case which seems to detract from the credit of the operation, and have not eyes to see that it saves millions of lives.

— In a recent exchange, Dr. Gueneau de Mussy recommends compression of the thorax after thoracentesis. The blood-vessels, which are rendered impassable by the pressure of the effusion on the compressed lung, become quickly filled again after the thoracentesis. The sudden change in the mechanical conditions of the pulmonary circulation may have certain anomalies in the functions of these organs as a result. The rapid congestion shows itself by dyspnoea and a sort of whooping-cough, which may lead, if the congestion is great, to a sero-albuminous secretion which is the premonitory symptom of speedy death. It has been advised in very great effusions not to empty the pleural sac at once, but to make several successive punctures, in order to forestall evil consequences. Gueneau de Mussy recommends for the same purpose compression of the thorax wall, while the fluid is flowing off, by means of the two hands of an assistant standing opposite the affected side and compressing the chest. A bandage closely applied supplies the place of the hands after the operation. The above manœuvre practiced by the author was always accompanied by a good result, and the above-named symptoms did not appear at all or quickly disappeared on making use of it.

BOSTON LYING-IN HOSPITAL.

CASES OF DR. W. L. RICHARDSON.

[REPORTED BY W. O. MOSELEY, HOUSE PHYSICIAN.]

Fatal Case of Puerperal Fever. — M. H., twenty-five years of age, primipara, entered the Boston Lying-in Hospital May 12th, at five P. M., complaining of slight uterine pains. The os was soft, dilatable, readily admitting the tip of the finger. The foetal heart was heard two inches to the left and below the umbilicus, 132. During the night the patient had occasional and feeble pains, no progress whatever being made in the dilatation of the os. At nine o'clock on the following day (13th) three fifteen-grain doses of the hydrate of chloral were given at intervals of twenty minutes, with the effect of quieting the patient, who, now freed from pains, slept until late in the afternoon, when the pains recommenced, and continued through the evening and night at intervals of about fifteen minutes. The pains were at no time strong. The first stage of labor was completed at 4.50 A. M. The pains continued at regular intervals, but feeble, and the head having reached the perinæum about nine o'clock made no further progress.

At 11.25 the patient was catheterized. Considerable difficulty was experienced in passing the catheter, owing to the presence of a vascular tumor which completely occluded the orifice of the urethra. Subsequently the patient stated that she had suffered for many months from painful micturition. She was then etherized, and delivered with forceps at 11.35. The placenta was at once removed by Credé's method, and one drachm of the fluid extract of ergot was given. The uterus contracted firmly. The patient recovered well from the ether, and soon fell asleep.

In the afternoon there was considerable flowing, which was, however, checked by three doses of twenty drops of the fluid extract of ergot, given with two hours' interval. In the evening the pulse was 104; temperature 100.6°.

May 15th. A. M., pulse 120; temperature 102.4°. P. M., pulse 96; temperature 104°.

At the evening visit the patient complained of some abdominal tenderness, which was relieved by a poultice. There was slight nausea in the afternoon. The urine was drawn with the catheter night and morning.

May 16th. Pulse 96; temperature 102.4°. In the evening, pulse 132; temperature 103.2°. Uterus decreasing in size. Slight abdominal pain. Some tympanites and tenderness. Lochia scanty. Quinine ordered, two grains every four hours.

May 17th. Pulse 120; temperature 102.6°. In the evening, pulse 128; temperature 104°. Still some tympanites. The abdomen was, however, tender only on deep pressure. Lochia scanty. Diarrhœa in the afternoon.

May 18th. Pulse 128; temperature 103°. In the evening, pulse 140; temperature 102.2°. Eighteen dejections last night, yellow and offensive. No blood. Some milk. Lochia more abundant, but less offensive.

May 19th. Pulse 128; temperature 102.6°. In the evening, pulse 160; temperature 103.4°. Diarrhœa ceased. One dejection last night. Reported to have slept well. No abdominal pain. Urine offensive. No milk. Mind wandering. Was isolated. Separate nurses engaged, and stimulants given. Continued in this condition all day, but answered rationally when spoken to. Decubitus dorsal. Took readily all the nourishment given. From eight P. M. patient commenced to fail rapidly, respiration grew gasping, and extremities cold and clammy. Tympanites, but no abdominal tenderness or pain. Low, muttering delirium was succeeded by unconsciousness after ten P. M. Brandy was given at short intervals, both by the mouth and subcutaneously. Ether was also injected hypodermically from time to time.

At two A. M. on the 21st the patient commenced vomiting a very dark, offensive liquid, and died somewhat suddenly during one of the attacks, apparently from asphyxia, at 2.45 A. M.

Autopsy, by Dr. Fitz, thirty hours after death. Veins in dependent part of body represented by livid lines. Mouth, nose, and lower part of face and neck covered with a reddish scum. Abdomen largely distended and tympanitic. Head not opened. Pericardium contained a moderate amount of watery fluid, stained with blood pigment. Heart much altered by post-mortem stains, and no opinion could be formed as to condition of muscular fibre. Valves and cavities apparently normal. Right side of heart and pulmonary artery contained post-mortem clots. Both pleural cavities contained some six ounces of watery fluid stained with blood pigment. The pleural surfaces over lower lobe of each lung posteriorly occasionally coated with a soft, dirty-gray false membrane, readily detached. Lower lobes of both lungs injected. Upper lobes not abnormal. Peritoneal surface of intestines in part smeared over with a purulent film; fibrinous clots were occasionally found between adjacent coils of intestines. The adjoining portions of intestines were minutely injected. About half a pint of thin purulent fluid was found in the abdominal cavity, and thicker pus between the diaphragm and liver. Spleen considerably enlarged, soft, dark colored, crepitating; on section, of a dirty-brown color; follicles indistinct. Both kidneys normal in size, flaccid; capsules readily de-

tected; surface beneath smooth, dotted with small circumscribed hæmorrhages. General color, reddish-gray. In one, mucous membrane of pelvis swollen, œdematous, hæmorrhagic. Abundant yellowish circumscribed membranous patches, the size of a pin's head, which, when separated, left minute losses of substance beneath. Section of kidney prevented any absolute judgment, though of a very decided degree of opacity. Liver small, flaccid, reddish-gray color; on section, the lobules were small and more opaque than usual; central part pigmented.

Stomach and intestines largely distended with gas. Mucous membrane of stomach thickened and opaque, and that of intestines, small and large, presented no unusual appearances. Bladder contained but little urine. Mucous membrane opaque; on posterior wall numerous small hæmorrhagic spots, on the surface of some of which a yellowish false membrane was found in small patches. There was a warty growth at the vaginal orifice of the urethra. Uterus enlarged, projecting slightly from brim of pelvis, its walls exceedingly flaccid; peritoneal surface smeared with occasional patches of false membrane, not especially prominent at any one point. The right ovary was a soft, sloughing, yellowish mass, with occasional patches of hæmorrhage, and communicating with the broad ligament, the adjoining tissues being infiltrated with a reddish yellow pus. No evidence of normal structure to be found. The fimbriated extremity of the right Fallopian tube contained a cyst the size of a walnut, full of a brownish material; the inner wall was covered with a delicate warty growth. The cyst was united to the Fallopian tube by a dense fibrous pedicle, constricted by a firm fibrous band. Left ovary covered with enlarged œdematous and hæmorrhagic patches, and contained a corpus luteum one third of an inch long. Right Fallopian tube patent, abdominal end containing an opaque fluid.

Internal surface of uterus, especially at cervical portion, smeared over with an adherent greenish membranous layer, which also dotted the placental insertion, which was at the fundus on the anterior wall. Shreds of soft yellow, evidently foetal, membranes were found near fundus. Slight lacerations on cervix. Vagina near outlet showed occasional false membranes, and some of them covered ulcerated surfaces. In cellular tissue surrounding were sinuous cavities with smooth walls filled with pus. The cellular tissue beneath peritonæum in Douglas's fossa was œdematous, but not purulent. Perineal rent smeared over with adherent false membrane. Uterine sinuses empty. No pus in walls of uterus.

Diagnosis: Septicæmia; acute pleuritis and peritonitis; splenic tumor; parenchymatous nephritis; diphtheritic pyelitis and diphtheritic cystitis; diphtheritic endometritis and vaginitis; peri-vaginal lymphangitis; gangrenous ovaritis; cysts in Fallopian tube.

Case of Extensive Gangrene; Delivery by Craniotomy; Death. — J. T., aged thirty-four, entered the Boston Lying-in Hospital on June 5th, in labor with her ninth child. She had had constant pain for the previous ten days, according to her own story and that of the attending homœopathic physician, the waters having broken half an hour before entrance. Her confinement not being expected until the last of July, no known cause of labor beginning dur-

ing the seventh month could be discovered, except the local trouble to be described. On inquiry it was found that for two or three months she had had a more or less profuse vaginal discharge, sometimes yellowish and thick, at other times whitish. She had suffered from constant pain, referred to the region of the vagina, but had never consulted a physician. Her general health had been very poor, weakness being the prominent symptom. For the last six days the discharge had had an offensive character, which had daily become worse.

On entrance, her appearance was that of a woman somewhat exhausted; pulse 100, temperature 100°, pains intermitting at intervals varying from ten to twenty minutes. There was a slight vaginal discharge, very offensive in character. On examination the vagina was found to be very much roughened, and at the upper third somewhat constricted. Three fifteen-grain doses of chloral were given at intervals of twenty minutes, which somewhat quieted the patient, and vaginal injections of water and carbolic acid were ordered every three hours. Pains were quite feeble through the night. The following morning a more thorough examination was made. Owing to the extreme difficulty of reaching the os, and the pain attending the vaginal examination, the patient was etherized and Cusco's speculum was introduced. The whole surface of the vagina was found covered with ulcerations, varying in size from minute points up to large patches, involving an area of two or three square inches. These larger ulcers had sharply defined margins of very irregular outline. Some of them were covered with a grayish gangrenous deposit, and the fœtor of the vaginal discharge was very great. Above the constriction before mentioned the os could be felt, about one third dilated, and the presenting part (head) could be felt within the os and above the superior strait. A Barnes's dilator was introduced at 11.10 A. M. Pains continued through the day, of greater severity and more frequent than before entrance. The dilator was expelled by a pain at 5.50 P. M. The labor continued through the night, the pains at no time being severe; vagina hot but moist, pulse 116, temperature 101°. Vaginal injections were used at frequent intervals.

June 7th. At the morning visit the patient was again etherized. The os was found to be about two thirds dilated, and the presenting part was somewhat lower down than on the previous evening. The patient being greatly exhausted, immediate delivery was decided upon; the urine was drawn with the catheter, and the forceps introduced by Dr. Richardson, the uterus being held in position by Dr. Samuel Howe, who happened to be in the hospital at the time. After some time the head was drawn down towards the perinæum, but it did not pass beyond the os. Owing to the extreme difficulty found in effecting the extraction of the child from the uterus, and the fear of separating the uterine attachments, on account of the gangrenous condition of the upper part of the vagina, perforation was decided upon. The head was perforated with Braun's trephine, the brain being subsequently broken up with Smellie's scissors. Delivery was accomplished with the cranioclast. The child was a female, weighing four and a half pounds. The placenta, being partially adherent, was removed with the hand.

A solution of perchloride of iron, one part to three parts of glycerine and

water, was then applied as thoroughly as possible to the ulcerated surfaces, and a tampon of cotton-wool soaked in the same was left in the vagina. The patient recovered well from the ether. Three hours after there was a profuse post-partum hæmorrhage. The tampon was removed by the house-physician, and the vagina thoroughly washed out with ice-water. Ergot was also ordered. The hæmorrhage ceased. Two grains of sulphate of quinia every three hours were ordered, as well as vaginal injections every two hours. Evening temperature 98.8° ; pulse 160.

June 8th. A. M., temperature 101° ; pulse 124. P. M., temperature 99.6° ; pulse 108. The patient had a comfortable night. Appears nicely, and reports herself as feeling "splendidly, but weak." Uterus slightly enlarged and tender. Vaginal discharge very offensive. Injections ordered every hour, day and night. Twenty-five drops of tincture of chloride of iron four times daily substituted for the quinine. Stimulants and liquid food.

June 9th. A. M., temperature 101.2° ; pulse 124. P. M., temperature 103° ; pulse 140. Manner somewhat lethargic. No appearance of milk. Discharge decidedly less offensive and less in quantity. Tongue coated. Less flowing. No abdominal tenderness. Appetite fair. Mind not affected. At midnight last night a large amount of *débris* came away during an injection. Superficial examination of the ulcerations near the orifice of the vulva showed them, as far as seen, clean and apparently covered with minute points of healthy granulations. Injections given every two hours.

June 10th. A. M., temperature 98.2° ; pulse 100. P. M., temperature 103.2° ; pulse 156. At one A. M. the patient had a sudden attack of dyspnœa, with a rapid, feeble pulse. Rallied under stimulants, and at time of morning visit appeared brighter and stronger than yesterday. Discharge less profuse and decidedly less offensive. No milk. No abdominal tenderness, even on deep pressure. Tongue coated. Ulcers near the vulva presented a grayish color, and did not look as well as yesterday.

June 11th. A. M., temperature 102.8° ; pulse 144. P. M., temperature 105.2° ; pulse 156. Some tympanites. No abdominal tenderness. Decubitus dorsal. Had a restless night. Feels "tired." Manner lethargic. More discharge than yesterday, and more offensive.

June 12th. A. M., temperature 103° ; pulse 140. P. M., temperature 104° ; pulse 144. Discharges more and more offensive. Restless night. Not so well as yesterday. Decubitus dorsal. Beef tea nauseates, so it was given by enema. Breathing of a wheezing character. No pain in chest. Mind wandered somewhat towards evening.

June 13th. A. M., temperature 103° ; pulse 148. P. M., temperature 105.2° ; pulse 160. Restless night. Decubitus dorsal. No abdominal tenderness. No milk. Respiration 56. Gradually losing ground. Mind wandered somewhat, but the patient answered rationally when addressed. Marked dyspnœa. Auscultation showed coarse and fine mucous râles in right and left lungs in front. Back not examined. Medication and stimulants as before.

June 14th. A. M., temperature 103.8° ; pulse 144. P. M., temperature 103° ; pulse 156. Losing ground steadily, but retains her courage to a remarkable degree. Unable to speak above a whisper from weakness. Vaginal

discharge very offensive. Râles in lungs still continue, and increase in area. Respiration 60.

June 15th. A. M., temperature 103° ; pulse 148. P. M., temperature 103° ; pulse 156. Seemed very weak at intervals during the night. Unable to speak. No change in the character of the discharge or breathing. At intervals of from four to six hours had sudden attacks of great prostration, with difficulty of breathing and trembling of the hands. Respiration 64. Vagina very offensive.

June 16th. A. M., temperature 103° ; pulse 160. No change in the character of the symptoms. Respiration 72. Stimulants and injections continued. Grew gradually weaker through the day, and died very quietly at 3.45 P. M.

Autopsy, by Dr. R. H. Fitz, eighteen hours after death. Rigor mortis slight. Contents of stomach escaping like a frothy serum from mouth. Body pale. Inspection showed nothing unusual except at the vulva, which was the seat of extreme gangrene, particularly within the labia minora. Head not opened. Pericardium contained two ounces of yellow fluid. Heart flaccid; slight amount of liquid and clotted blood in right auricle, and less in ventricles. Valves and cavities apparently healthy. Pulmonary artery contained post-mortem clots. Left lung adherent throughout to thoracic walls by old adhesions. This lung œdematous; otherwise normal. Right pleural cavity contained half a pint of grayish-white, opaque fluid. Pleural surface was besmeared with a thin layer of a dirty-gray membrane, irregularly distributed. At base of right lung an irregular, circumscribed, opaque, greenish-white surface, representing gangrenous pleura, covering a cavity within the lung just beneath, which contained gas and a greenish fluid of an offensive character; the walls composed of numerous shreds of tissue, dirty-green in color, representing sloughs. The lung tissue surrounding œdematous, not hepatized. The whole upper lobe dense, not crepitating on section, of a white color, surface slightly granulated, with occasional yellowish viscid plugs in bronchi, and moderately opaque, pinkish fluid was to be squeezed from the surface. Peritoneal surface showed nothing abnormal. Spleen three times its normal size, soft, pale on section, resembling red paint. Both kidneys considerably enlarged, very flaccid; capsules readily detached; surface beneath moderately injected, greenish-white, opaque, and in region of convoluted tubes particularly so. Bladder contained a small amount of opaque, puriform fluid, and general surface showed nothing unusual. Posterior surface of bladder near its connection with the uterus thickened, hæmorrhagic, with the serous coat over a limited portion opaque, white, and rather friable. This part was adjacent to a sloughing, discolored, gangrenous perforation of the vaginal wall, near the cervix uteri. Uterus contracted, serous surface healthy, muscular wall pale and white, venous sinuses empty, except at fundus. The inner surface of the uterus gangrenous; the cervix also gangrenous, in parts lacerated. The vagina extensively gangrenous, especially on anterior wall, where perforation had taken place towards the outlet, as well as at the upper part. The gangrene had extended for a short distance into the urethra; also into the outer half inch of the rectum, there being practically no perinæum. The right ovary contained a recent corpus luteum of large size, which was attached by recent adhesions to the pelvic walls, and was gangre-

nous. Right ovarian vein thickened, of a light-yellow color; tissues surrounding swollen, but no thrombus present. Left ovary and ovarian vein normal. Liver flaccid, opaque, white, enlarged; lobules indistinct. Gall-bladder contained several small stones. Cystic duct dilated.

Diagnosis: Gangrene of lung; suppurative pleurisy; lobar pneumonia; splenic tumor; cloudy kidneys and liver; gangrenous endometritis and vaginitis; phlebitis of right ovarian vein.

Case of Anencephalic Monster, with Spina Bifida and Umbilical Hernia.—

A. C., twenty-two years old, entered the Boston Lying-in Hospital April 28th, in labor with her first child. Examination showed the os three quarters dilated, with a tense bag of membranes protruding. No presenting part could be felt, care being taken not to rupture. External palpation showed an unusually large abdomen, the upper part being especially enlarged, and falling away gradually from the umbilicus to the pubes. The foetal heart could not be detected. The child lying in the longitudinal axis of the uterus, and the head not being felt over the pubes, the diagnosis of probable breech presentation was made. Pains continued very feeble through the night, at intervals of fifteen or twenty minutes, but in the morning the condition of things remained unaltered, the membranes still tense and protruding, and the presentation still not made out. At ten A. M., Dr. Richardson, suspecting hydrops amnii, introduced a catheter high up into the membranes, which was followed by a tremendous gush of liquor amnii, lasting for some minutes. Actual measurement showed seven and a half quarts, and the amount which soaked the bedclothes and was lost gave somewhat over two gallons in quantity.

First stage completed at 10.20 A. M. The child's head had been detected over the pubes, and a vaginal examination now showed a face presentation, with forehead towards the sacrum and chin towards the pubes (left). The pains immediately became stronger, and the head descended rapidly until it reached the perinaeum, when they grew feebler, and no further progress was made. Patient's strength and pulse remained good.

At 3.30 P. M. Dr. Richardson decided to apply forceps, and the patient was accordingly catheterized and etherized. On making the preliminary examination the finger passed over an unbroken surface from the mouth to what was apparently the axilla, on the right of the examiner, while high up on the left several bony prominences covered with thin skin or membrane could be felt. The diagnosis of monster was then made, and the fingers being inserted into the axilla, and traction used, the left arm was extracted. Both hands were then inserted into the vagina, embracing the head and part of the body, and the child was withdrawn by continued traction. In the extraction of the arm the humerus was broken, and the skin and the muscular tissue beneath torn in the bend of the axilla. Examination of the child showed that putrefaction had begun, the cuticle peeling off, which probably accounted for the ease with which the muscles gave way when traction was made on the arm. The baby was a male weighing three pounds, and a monster known as anencephalic, with spina bifida and umbilical hernia. The placenta was removed by Credé's method, and was somewhat larger than usual, being unusually long in shape. One drachm of ergot was given, and there being some tendency to hæmorrhage, ice-

water injections were used. Owing to the weakened condition of the mother's pulse, brandy was given. The uterus contracted well, and the pulse remained at 92. Perinaeum intact. Patient recovered well from the ether, and had a comfortable night.

For several days there was marked tympanites and offensive lochia, requiring injections of permanganate of potash, one scruple to the pint, four times daily. Pulse ranged from 108 to 120. Temperature averaged about 101°. On the 8th of May she was put upon quinia, two grains three times a day, and stimulants, which were continued until the 21st, when the quinine was stopped, and tincture of chloride of iron, twenty-five drops three times a day, substituted. During this time she gained gradually, but remained pale and anæmic, with no strength or desire to rise from the bed. Two threatened bed-sores were averted by cold applications and bathing with carbolic acid. On May 23d she sat up for the first time, and on the 28th was transferred to St. Luke's Home for Convalescents, much improved.

LETTER FROM NEW YORK.

MESSRS EDITORS, — The Medical Society of the State of New York was incorporated by an act of the legislature, passed April 4, 1806, and the society met for organization on the first Tuesday in February, 1807, with twelve representatives present. In 1820 there were twenty-eight representatives at the meeting; but it was not until 1857 that the number reached one hundred. In 1875 the number of delegates and permanent members reached two hundred and fifty-nine. One cause for the small number of representatives present at the earlier meetings was the distance from the place that many lived, and the inclement season of the year in which the annual meeting was held. In 1851 it was resolved to hold a semi-annual meeting of the society at Buffalo on the second Tuesday in June, 1852. One was held at New York in the following year; since then they seem to have been discontinued. Until 1853 the society consisted of delegates from the county medical societies only. This year two permanent members were elected from each senatorial district. The society as now constituted consists of delegates, permanent and honorary members. The delegates are elected by the county medical societies, each one of which is entitled to send as many as there are members of the assembly from that county. Each incorporated medical college, conducted by members of the profession, is allowed to send one delegate, and the New York Academy of Medicine five. Each delegate is elected for four years, in such a manner that one fourth of the whole number go out of office annually. The society in 1832 made provision for publishing its transactions in a permanent form, and in 1833 volume i. of the Transactions was issued; only one hundred copies were printed. Volume ii. appeared in 1835; volume iii. in 1837; volume iv. in 1840; volume v. in 1842; volume vi. was not issued until 1846; volume vii. was published in 1849. In 1850 the Transactions were printed by the State, and became a legislative document. They continued to be issued by the State yearly until 1872, when, no appro-

priation being made, the publication as a state document was discontinued, and in 1873 the society again assumed the expense of publication. The volume for 1875 was furnished to members of the county societies at one dollar and seventy cents a volume.

The seventy-first annual meeting was held this year at Albany, on the 16th of June, and lasted three days, with a morning, afternoon, and evening session. The following are the titles of the papers read: Recent Improved Methods of Diagnosis and Treatment in Urethral Surgery, with Tabulated Statements of Results in Forty-five Cases, by Dr. R. U. Pease. Four Cases of Sudden Death, Coroner's Cases, by Dr. J. Kneeland. Operation for Closure of Cleft of Hard Palate, with Report of Cases, by Dr. A. Van Derveer. Sanitary Inspection of Schools, by Dr. William C. Way. Woorara in the Treatment of Rabies Canina, by Dr. J. W. Greene. The Forceful and Rapid Dilatation of the Cervical Canal for Cure of Antelexion, by Dr. H. T. Hanks. Forceful and Rapid Dilatation of the Cervix Uteri for the Relief of Stricture, Conical Cervix, Sterility, etc., by Dr. John Ball. Puerperal Metastatic Iridochoroiditis, by Dr. T. R. Pooley. Punctured Wound of Lung, Diaphragm, and Liver, with Recovery, by Dr. S. L. Parmelee. Report of Case of Fracture of the Base of the Skull, with Recovery, by Dr. J. B. Graves. Pulmonic Fever; Grounds for considering Acute Pneumonia an Essential Fever and not purely a Local Inflammation, by Dr. Austin Flint. Two Cases of Convulsive Disease without Convulsions, by Dr. Mary Putnam-Jacobi. Stone in the Bladder, by Dr. J. W. S. Gouley. Nitrite of Amyl in Pertussis, by Dr. George Bayles. The Cold Bath in Scarlatina, by Dr. C. H. Giber-son. Jaborandi, by Dr. A. Hutchins. Vaginal Injections, by Dr. F. P. Foster. Some of the Morbid Conditions of the Prostate Gland, by Dr. Frederick Hyde. Pseudo-Membranous Laryngitis; Tracheotomy; Relapse and Recovery, by Dr. N. L. Snow. Tar Fumigations in Gangrenous Sores, by Dr. Lewis Post. Hydrochlorate of Ammonia, by Dr. C. G. Pomeroy. Certain Points relating to the Nature and Treatment of Lupus, by Dr. H. G. Piffard. Hereditary Transmission of Disease, by Dr. Ira F. Hartt. Haemophilia, by Dr. James C. Hutchinson. Experience in Shoulder and Arm Presentations, by Dr. I. Parsons. Cases of Wounds of the Synovial Membrane of the Knee-Joint successfully treated without Antiseptic Application, by Dr. George Burr. Action of Mercury, by Dr. H. N. Eastman. Opium Inebriety and the Hypodermic Syringe, by Dr. S. F. McFarland.

The society was called to order daily at 9.30 A. M., and remained in session until one P. M.; then adjourned until three P. M., the afternoon session lasting until six P. M.; the evening session began at eight P. M., and lasted until ten P. M. The following order of exercises was adopted: At the morning session, first, general business, followed by the reading of papers; remarks and inquiries were then called for; only a few minutes, however, were allowed to each speaker. It was intended that no general business should be introduced into the afternoon and evening session, but the wishes of the president were overruled and some matters were brought up, but not to the extent that has usually been done at former meetings of the society. In order to facilitate business a schedule was published, giving the titles of papers to be presented,

their order, and the length of time allotted to each, also the time for general business. By this plan a greater amount of business was transacted and a greater number of papers read than at any previous meeting. Dr. Squibb, as delegate to the American Medical Association, made some remarks on the action of that body in regard to revising the Pharmacopœia, but the society does not seem to have taken any action upon it. It seems almost impossible to settle upon the proper time for holding the annual meeting. From the organization of the society until 1874 the time for holding the meeting was the first Tuesday in February. It was then changed to the fourth Tuesday in September. In 1875, 1876, and 1877, it was held on the third Tuesday in June, and now they have altered it to the third Tuesday in February. The nominal reason for this last change is that as the homœopaths and eclectics hold their meetings in the winter during the session of the legislature, the fear is that they will influence that body and prevent needful legislation. The real reason seems to be that the month of June is inconvenient both to the city and country practitioners. The former have just got through their winter's work and do not enjoy a visit at Albany; the latter are just beginning their practice among those who go from the city to the country for the summer, and they do not like to lose any of it. February is a very inconvenient month for both classes of physicians; it is an unpleasant month to travel in. During the meeting of the legislature the hotels are full, and the capital of New York is not the most attractive place during the inclement season. Neither party is satisfied with the change.

The committee on the prize essay reported that no essay had been presented, and that there were no funds with which to pay a prize.

Last year a committee, of which Dr. E. M. Moore was chairman, was appointed upon the subject of "establishing a committee to determine the qualifications of students in medical colleges who are about to enter the profession, the services of such committee to be tendered to such colleges as may desire them." On account of the absence of the chairman the subject was postponed until the next annual meeting. It is difficult to see what good can come from the consideration of this subject. Any change in the mode of instruction or in the qualifications for graduation must be made by the colleges themselves, and as they are at present governed we have little to expect from them.

There has been considerable feeling heretofore in regard to the manner in which the nominating committee has been appointed. The president has appointed one person from each senatorial district, and the eight persons thus selected formed that committee. This year the by-law was so amended that "the permanent members and delegates from each senatorial district shall constitute a committee, which shall elect one of their own members and from their own district, who shall be a member of the nominating committee, and the eight persons thus elected shall constitute a committee on nominations." This takes the appointment of the most important committee out of the hands of any ring that may be formed and gives it to the delegates; it cannot fail to add to the harmony of the association. The meeting that has just closed its session has been one of the most successful ones, both in regard to

the amount of business transacted and in the character of the papers presented. There was but little trash, and those who have so often taken up the time of the society by reading papers consisting of a rehash of what they have read before, or published in some medical journal, were few in number. To the president, Dr. E. R. Squibb, of Brooklyn, great credit is due for the manner in which the meeting was conducted, and for the strict way in which the printed programme was carried out.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JULY 28, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	707	34.13	27.46
Philadelphia	850,856	408	24.93	22.88
Brooklyn	527,830	355	34.97	24.31
Chicago	420,000	250	30.95	20.41
Boston	363,940	243	34.72	23.39
Providence	103,000	54	27.26	18.54
Worcester	52,977	26	25.52	22.00
Lowell	53,678	27	26.16	22.21
Cambridge	51,572	29	29.24	20.54
Fall River	50,372	48	49.55	22.04
Lawrence	37,626	23	31.79	23.32
Lynn	34,524	9	13.56	21.37
Springfield	32,976	15	23.65	19.69
Salem	26,739	20	39.27	23.57

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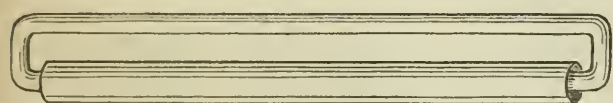
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TREATMENT OF FRACTURE OF THE PATELLA.

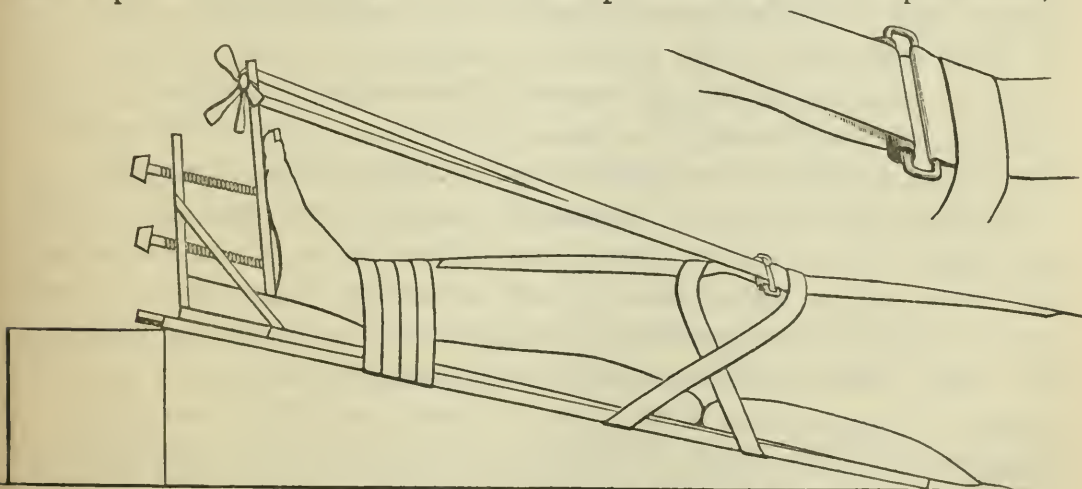
BY J. F. GALLOUPE, M. D., LYNN.

ALL who have had much experience in the treatment of transverse fracture of the patella must have found the different methods recommended in the text-books inefficient and unsatisfactory to both surgeon and patient. Having treated a considerable number of cases by the most approved appliances with no better results than those obtained by "position" alone, I had concluded to relieve my patients of the annoyance of straps, bandages, and the like, and myself of the trouble of applying them, and to trust to simple treatment by position.

Upon hearing good reports of the method recommended by Dr. Sanborn, of Lowell, I gave it a trial, but found that the twisted plaster over the patella caused pain and excoriation of the skin; that the plaster was drawn into a string for some distance above and below the patella, and that the skin was dragged into a great fold, while the fragments were but little if at all acted upon. To obviate these objections I modified the appliance as described below: a



tinsmith was employed to bend a piece of No. 13 wire to the shape and size here represented,



and to surround one side with a tin roller like that of a common harness buckle; to this was sewed one end of a strip of plaster two and

one half inches wide and about a foot long; the plaster was then applied to the thigh, with the wire exactly over the upper extremity of the upper fragment. A similar strip of plaster was applied to the leg below the lower fragment, to which a strip of strong cotton cloth, about a yard long, had been sewed; a strip of plaster around the limb and splint, above and below the patella, served to secure the limb to the splint and to hold the ends of the other plasters down against the broken bone. The end of the cloth being passed around the pulley and drawn upon, the fragments were held together with the greatest ease and with comfort to the patient. The end of the strip of cloth was then split in two and tied around the end of the foot piece of the splint in a bow-knot. This was quite as efficient as a weight would be, and much more convenient. The smooth cloth, passing over the broken bone, caused no pain and prevented tilting; the circulation was not interfered with, and easy control over the fragments was maintained.

I have now treated three cases in this way, with excellent results and with comfort to the patients. It is important that the plaster should be of good quality. I have used that of all the different manufacturers in the market, including the English and also the "rubber adhesive plaster" (which is the poorest of all), but give the preference to that made by Shriver, of Philadelphia.

IRITIS.¹

BY JAMES A. SPALDING, M. D. HARV.

INFLAMMATION of the iris, not due to wounds of the eye, nor as a result of operations on the eye, is by no means rare. It may occur suddenly, in the seemingly most healthy person, run a varying rapid course, and if carefully treated leave no ill results behind. But as it is often neglected by the patient, it may end in more or less loss of sight in the eye affected, and sooner or later starts sympathetic trouble in the other eye, leaving the patient in a short space of time with so little sight that he is in constant dread lest that too may leave him.

If the iris were not so intimately connected with the ciliary body, and that in turn with the choroid, an inflammation of the iris, even at the worst, might leave behind it only some loss of sight due to closure of the pupil or to a deposit of the pigment of the iris on the capsule of the lens. But as this connection does exist, and as from it the chief danger of uncared-for iritis is to be feared, we should always try to diagnosticate iritis rightly, to treat it carefully, and, if in spite of all our care the case ends in loss of sight to whatever degree, to warn the patient that an eye once so inflamed, even if now seemingly healthy,

¹ Read before the Cumberland County (Me.) Medical Society, April, 1877.

may have a relapse at any time, or bring on some sympathetic trouble in the other eye.

In order to bring out the points which it is intended to emphasize in this paper, let us look briefly at a few cases of the ordinary type.

CASE I. A young woman applied to me for advice as to a slight inflammation of the left eye, of two weeks' standing. A year ago she had had, as she thought, a like inflammation, but it had stopped at the end of three weeks, and the eye had since then been quiet. For this fresh attack she had been using some mild astringent wash, but with no relief. The sight was perfect, and the ophthalmoscope showed no signs of deep-seated trouble. The case seemed one of conjunctivitis, but as she had had no relief from astringents I used as a means of diagnosis a weak solution of atropia sulphate,¹ which dilated the pupil and brought to light a small adhesion. At the end of ten days the adhesion was broken through by the use of the strong solution of atropia, and a cloudiness of the cornea disappeared under the influence of mild local and general tonic treatment. She was now able to read the finest type with both eyes, without any exertion. At the end of a month, during the last week of which she had neglected the use of atropia, she had a relapse, and when I saw her again new adhesions had formed opposite the seat of the old adhesion; there were deposits of pigment on the capsule of the lens; the sight was quite defective (Snellen's types No. 8); and the eyeball seemed enlarged and was rather soft.

An iridectomy was declined; other means failing, Streatfield's operation of tearing through the adhesions was done, and the pupil was dilated fully. An interval of rest followed, but at the end of another month irido-choroiditis set in, and the pupil was slowly closed by the pouring out of lymph into its field. Iridectomy was done, but that failed to stop the progress of the disease; and although for three months the sight at times was almost normal, the eye at last had to be removed, as the previously sound eye gave signs of tenderness.

CASES II. and III. are of comparative interest. Both had lost their sight from extensive adhesions, and within four weeks after the iritis began: one had been treated with mercury, the other with tonics; the former had had sympathetic trouble, the latter none; the latter had had a second attack in the same eye, the former none. In neither case was atropia used. In both cases iridectomy will have to be done.

CASE IV. was seen within a few hours after the attack began; the

¹ In this paper a *weak* solution means 7 centigrammes (cg.) to 31 grammes of water; a *moderately strong* solution, 33 cg. to 31 grammes; a *strong* solution, 66 cg. to 31 grammes; while in very rare cases, a solution of 1 gramme to 31 grammes may be used:—

1 gramme = 15.43 grains troy.

1 centigramme = 0.154 grains troy.

Fl. 3i = 480 grains distilled water = 31 grammes nearly.

pupil was smaller than that of the right eye, was very sluggish, but dilated fully under the action of the weak solution of atropia. A moderately strong solution was then ordered, and the pupil was kept fully dilated. On the tenth day the patient neglected the drops for twenty-four hours, and on seeing him the next morning I found the pupil smaller, quite oval, and tied down by many very fine adhesions. The strong solution of atropia had only slight effect. Pain, which had up to this day been almost wholly absent, now became very considerable. To relieve this, potassium bromide was ordered, and with complete success. No effect being visible on the pupil the next morning, I at once applied three leeches to the temple, and encouraged after-bleeding. The pupil began to dilate the next morning under the influence of a weak solution of atropia, and that was maintained to the end of the case, some fifteen days afterwards. Sight has been perfect for the last two years.

CASE V. had an irritation of the iris (if I may use that term) rather than an inflammation; the pupil was sluggish, but not tied down. The eye was enormously congested, more so than in any case I ever saw. Weak solutions of atropia caused dilatation of the pupil, but it was not lasting. Astringents were of no use. The very strong solution of atropia was now used repeatedly, and it acted, I might say, magically, for the congestion of the eye began to grow less in a very few hours, and it was not long before the patient reported himself as well.

In looking over these cases we are to notice the rapid formation of adhesions when the pupil once fairly contracted, the rapidity with which, after adhesions had once formed, grave troubles of sight followed, and the beneficial results of atropia in strong solution.

Now, as iritis is by no means a simple disease which comes and goes and leaves no traces behind, I propose to take these cases as my text, as it were, and look a little closer at this disease, which often falls to the care of the general practitioner.

Iritis may easily be mistaken for conjunctivitis unless attention be given to the following points: in conjunctivitis the congestion of the eye is uniform, or nearly so, all over the eyeball, and is especially marked in the fold of conjunctiva exposed when the lower lid is pulled down. Its color is of a brilliant red; the network of congested vessels is extremely fine, and the vessels, if touched, can be rolled about under the finger-tip.

In iritis the eye, at first glance, often looks very much congested, but this congestion is more noticeable close to and around the cornea, and is almost absent in the fold of the lower lid; the color is more of a brick-red or even purple tint; the vessels are larger, their net-work is coarser, sometimes even absent; the vessels gradually taper off in size as they pass away from the cornea; they cannot be rolled under the finger, for they are deeper seated than those congested in conjunctivitis.

Sometimes there is a very narrow white ring wholly round the cornea, and then, just outside of this, the engorged vessels suddenly start out over the eyeball. Sometimes, though rarely, the conjunctiva seems puffed up around the cornea, or there may be œdema of the lids.

The presence of a copious flow of tears is not a diagnostic point of much value, being common to both conjunctivitis and iritis.

Then the state and behavior of the iris and pupil are to be considered. In conjunctivitis the iris of the eye affected is of the same normal color as the other; its look is clear and healthy; there are no vessels to be seen on its surface; the pupil is quite sensitive to the action of light and shade, and contracts and expands energetically.

In iritis the iris is more or less dulled in color, a blue iris becoming greenish, a brown iris reddish-brown; the iris is swollen and pushed forward, and sometimes congested vessels are seen on its surface. The pupil is contracted, except in one set of cases to which we will soon return, sometimes excessively so: first by the swollen state of the iris and its vessels, and then by adhesions forming or already formed between the edge of the pupil and the capsule of the lens.

A great deal depends, so far as an exact diagnosis is concerned, on whether the pupil is contracted or sluggish, or only seemingly so. Here we must remember that if the healthy eye be left open while the affected eye is tested by closing and opening the lids, the pupil sympathetically tends to follow the movement of that of the sound eye, and hence may give us a false idea of its mobility. Therefore close the sound eye and keep it closed; then test the affected eye, or, if both eyes be affected, test each one separately.

I do not doubt that many a case of iritis has thus concealed itself, and has been treated with simple astringents; then a few hours later adhesions have formed which have been difficult to get rid of without operative interference. Therefore, I repeat, test each eye separately.

Another point in diagnosis, if we are still in doubt, is to drop a weak solution of atropia into the eye, and in a short time we shall be able to tell whether adhesions be present or not. If we cannot see them by diffused daylight we can concentrate lamplight or gaslight on the eye by convex lenses. Pain is usually present in iritis, but not always; when present it is not itching and smarting as in conjunctivitis, but deep-seated, causing tenderness on the temples and forehead of the affected side, usually very severe at night, though there may be no pain when we press on the eyeball. In iritis the vision is more or less affected from adhesions, or from exuded lymph, or corneal implications. When lymph is exuded into the anterior chamber of the eye, it may assume a triangular shape, the base downwards, the apex pointing into the centre of the pupil. This odd appearance is probably due to the gravitation of the heavier particles to the bottom of the chamber. A

few very rare cases have been reported¹ where there was blood in the anterior chamber, which had oozed from the engorged vessels. These cases were said to be syphilitic.

We may sometimes find yellowish or reddish tubercles in the stroma of the iris, much resembling syphilitic gummata. When they are present that part of the iris on which they seem to grow is the only part inflamed, and the vessels converging towards it are noticeably enlarged. These tubercles often undergo fatty degeneration. When present they are an almost positive sign of syphilitic iritis, for out of sixty cases reported, syphilis could be proved in all but two. It is in a syphilitic iritis that we find a dilation of the pupil, and the pain is usually less.

Chronic iritis may be known from the history of a previous attack, whether acute or subacute, or it may come on in connection with diseases of the cornea. The change of color in such cases of chronic iritis is lasting, while in acute iritis the iris regains its normal color after some delay.

The cases which I have spoken of in beginning this paper all came on in the hottest part of the year, July and August: in none of them was there the least history of infection from syphilis or of congenital syphilis; in none of them were there any accounts or symptoms of rheumatism, although there were complaints of shifting pains in various muscles and joints.

It may be interesting to consider here the disputed question as to the syphilitic or arthritic causation of iritis, using the word arthritic to include acute and chronic rheumatism, rheumatic gout, and gout. Most authors, Bumstead, Meyer, Galezowski, Wells, and so on, falling back on the statistics of Graefe, say that from sixty to seventy-five per cent. of cases of iritis are due to syphilis. Most medical writers on rheumatism are silent on cases of inflammation of the eye coming on during or directly after an arthritic attack.

An able defense of the existence of a real arthritic iritis has lately been made by Mr. Jonathan Hutchinson,² who says: "Rheumatic iritis is a disease likely to be pushed to the wall in this age of specialism. It is nobody's child. Writers on rheumatism do not mention the eye. Writers on the eye dismiss rheumatism with contemptuous brevity. Syphilis has come to the front, and most physicians believe that if the truth could be reached, iritis would be found of syphilitic origin. . . . I believe confidently that iritis due to an arthritic diathesis is a common malady, and that very many cases treated as syphilitic are really arthritic."

This testimony, coming from so ardent a student of syphilis as Mr.

¹ Med. and Surg. Rep., March 7, 1874; also *Klin. Monats. für Augenheilkunde*, ix. 94, x. 7.

² Royal London Ophthalmic Hospital Reports, vol. vii., part 3; vol. viii., part 2.

Hutchinson, is of great weight. In these papers referred to he gives the history, and in some cases the treatment, of one hundred and fifteen cases of various diseases of the eye, in adults, taken at random from hospital and private practice, and of them a brief summary is annexed in tabular form : —

71, Chronic rheumatism and gout ; history or actual symptoms.

14, Rheumatic fever.¹

19, Gonorrhœal rheumatism.

8, Syphilis.

3, Unknown, that is, uncertain whether syphilitic or arthritic.

115 cases, of which 98 were of iritis, the rest of glaucoma, kerato-iritis, and so on.

This series of cases would seem to show a true arthritic iritis, due to a diathesis developing itself sooner or later in the shape of rheumatism, rheumatic gout, or gout, accompanied with or followed by symptoms of diseases of the eye. But it is not to be expected that we should always find in cases of arthritic iritis such physical signs of the development of a diathesis as are distinctive of syphilis, — patches in the throat, on the arms, chest, or abdomen, or swollen glands in the neck, and so on.

Congenital syphilitic iritis is observed mostly in infants or young children ; it almost always attacks both eyes, and there is much exudation of lymph into the field of the pupil.

Gonorrhœal iritis has no existence, the three or four cases reported as such having since been proved to be associated with gonorrhœal rheumatism.

The treatment of iritis, whatever may be its nature or cause, resolves itself first into care for the strictly local symptoms ; then for the constitutional.

We must keep the patients, if possible, in darkened rooms, or at least insist on their wearing tinted (blue or smoke) protecting-glasses or shades. Then comes the fight against the formation of adhesions, because they contract the pupil, and of themselves interfere more or less with vision ; because they may, even if we succeed in tearing them through, leave behind them indelible stains on the lens capsule ; because, once formed, they keep up an irritation of the iris at every movement of the pupil in response to light or shade ; because they may cut off the interchange of fluid between the two chambers of the eye ; and, finally, because sooner or later there is a tendency of these causes combined to set up irido-choroiditis, or later, sympathetic trouble in the sound eye.

How are we to avoid these dangers ? By the use of atropia, and by not using it too weak. Do not dally with a case of iritis. Attack it at once. The strong solution of atropia sulphate should be in every physician's hands, not only as a powerful arm, but as a means to diagnosis

¹ Of these fourteen cases of rheumatic fever, twelve had an iritis come on *during the fever* !

and prognosis. For if we find no adhesions we can say, with as much confidence as of any disease, this case will do well; or if adhesions show themselves we can say, depending on their number and thickness, this case may go slowly, it may have relapses; while in the worst cases, we can at once advise operative interference. But such strong solutions should not always be left in the patient's hands, as they sometimes cause symptoms of poisoning. In cases of long standing, and where the adhesions cannot be removed by solutions of atropia, it is better to give them up, or to try the effect of calabar bean,¹ or, better still, to advise iridectomy.

In one of the cases reported atropia was neglected by the patient, or perhaps it was not absorbed, owing to some trouble in the cornea; the result was the formation, in a very few hours, of adhesions which proved quite obstinate. In such cases as this, while keeping up constitutional treatment, we must apply leeches to the temples, on a level with and about an inch from the eye, and pretty close together, as the space is not large. In case we have to leave the application of the leeches to the patient, we should *mark the place where we wish them applied*, lest the patient apply them too near the eye, or to the lids, or even to the eyeball itself, with most destructive results.²

Astringent lotions are of but slight help during an attack of iritis, however much the congestion of the vessels may seem to call for them. This congestion will disappear only with a removal of the iritis.

If tubercles appear in the iris, hot-water compresses are often of much avail. Hot foot-baths are also useful. Ointments about the eye, smeared into the temples and forehead, act slowly and variably. Their nastiness is disproportional to their benefit. I rarely use them (extract belladonnæ, etc.) except when, owing to the patient's idiosyncrasy, solutions of atropia cannot be borne.

Paracentesis of the cornea is indicated when atropia refuses to act, when adhesions have formed, or when leeches prove of no help. A slight prick with a broad needle, letting off the aqueous humor, often relieves the most intense pain.

As relapses of iritis often occur, we should keep on with the use of atropia for some weeks after all inflammatory symptoms have ceased. If these relapses are not caused by the presence of adhesions, we must admit the existence of a diathesis of some sort.

¹ A filtered solution of thirty-three cg. of the solid extract of calabar bean to thirty-one grammes of water acts well in some cases. Or we may use gelatine disks impregnated with the extract; or esserin sulphate may be tried. But the latter is very expensive.

² Dr. Lebrun, *Annales d'Oculistique*, September and October, 1870, page 166, reports a case of sympathetic ophthalmia in the left eye of a man, aged thirty-nine, from irritation and loss of sight in the right eye, due to the bite of a leech, which was placed directly on the cornea of the eye, when a leech had been ordered to be put "near the eye," for some slight inflammation. In this case, although the injured right eye was removed, the left eye remained much affected, and probably forever as to it sight.

Constitutional treatment cannot be neglected ; but it is not always needful. Many a case of iritis may be cured by merely local treatment ; but then, in case there should be relapses, we are met by the question, Would these have occurred had we paid due attention to constitutional treatment ?

If we believe in the existence of an arthritic diathesis, we must employ the remedies proper for such cases. Salicylic acid¹ and quinia are highly praised. Then we may use potassium iodide, or ol. terebinth., or the various diaphoretics and diuretics. To relieve the pain we may rely on opium, potassium bromide, ammonium bromide, chloral hydrate, or amyl nitrite. Mr. Power,² besides the constant use of atropia, strongly urges the combination of strychnia, iron, and quinia bisulph., on the ground that iron and strychnia constrict the walls of the arteries of the iris and diminish the amount of blood supplied, while quinia materially influences the escape of white corpuscles, which are the probable cause of adhesions.

In regard to mercury, I must confess my ignorance. I have never used it in a case of iritis, but I cannot yet say that I have to blame myself for any eyes lost from iritis from not using it. Mercury may diminish inflammation of the iris if it have time enough to act, but meanwhile the pupil may become tied down to the lens capsule by adhesions.

I have been much struck by these following sentences : "One case [iritis] has taken much mercury at different times, and both eyes are very much damaged ;"³ again, "The opposite eye will sometimes be attacked while the patient is taking mercury for the one first affected, and in rare instances during the existence of ptyalism ;"⁴ and again, "An infant under the influence of mercury is just as liable to have an iritis."⁵

Such sentences, at first puzzling me, at last led me to the belief that a case of iritis, whether syphilitic or arthritic, runs its own course independently of the presence of mercury in the system. However, if we think or if we have been taught that mercury is of avail in iritis, we should use it in the form of calomel and opium, or of calomel combined with tonics as Bumstead advises.

In closing, I may say that my reasons for going into the subject of iritis at such length have been because the disease is not an infrequent one amongst diseases of the eye ; because if neglected it leads to grave results ; and finally, and most especially, because I wished, in bringing the question before you, to gain new light from your own experience as to its syphilitic or arthritic origin or causation.

¹ Boston Medical and Surgical Journal, February 22, 1877.

² Royal London Ophthalmic Hospital Reports, vii. 4.

³ Hutchinson, *ubi supra*.

⁴ Bumstead, 1870 edit., page 668.

⁵ Medical Times and Gazette, July, 1860.

[An interesting discussion followed the reading of this paper. Dr. J. M. Bates, of Yarmouth, related some cases of iritis coming on during an attack of rheumatic fever, and he was of the opinion that in country practice cases of iritis were more often due to an arthritic than to a syphilitic diathesis. In answer to various questions, Dr. Spalding advocated the use of the moderately strong solution of atropia sulphate (thirty-three eg. to thirty-one grammes of distilled water or rose-water) because, although weaker solutions might equally well cause and continue a dilation of the pupil, the stronger solution caused more contraction of the vessels of the iris, thereby lessening the danger of the exudation of white corpuscles causing adhesions, and because it was more soothing. But sometimes, in elderly people, a solution of the above strength will cause dryness of the throat and other unpleasant symptoms, when a weaker one will be easily borne.]



RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.

BY S. HOWE, M. D.

OBSTETRICS.

*Is the Fœtus in Utero affected by Medicine which is given to the Mother?*¹ — In the New York Obstetrical Society Dr. Mattison reported a case of puerperal convulsions. The patient was treated with morphia, and was under its influence for about two hours; the morphia was given subcutaneously; the amount was about one and a half grains. The child was born asphyxiated, and shortly after had some convulsions, but finally recovered. An interesting discussion followed the report of the case, the opinions of Zweigel and Fehling being quoted. (Zweigel had found chloroform, after it had been given for some hours to the mother, in the urine of a new-born child. Dr. Fehling's experiment was as follows: A guinea-pig which was about to bear young had injected into its external jugular vein of the left side a large amount of curare; it was kept alive for some hours by artificial respiration. The abdomen was then opened, and the young guinea-pigs were found in a lively condition, unaffected by the drug.)

Dr. Barker opened the discussion by saying that he did not agree with Dr. Mattison, but thought that convulsions in a fœtus might take place due to opium poisoning. He cited cases in animals where opium poisoning was followed by convulsions, and said that in those savage races in which the brain is less developed than in the rest of mankind convulsions do occur after toxic doses of opium. The possibility of a poison passing from the blood of the mother to that of the fœtus is shown in cases of scarlatina, variola, and syphilis. That medicine

¹ American Journal of Obstetrics, March.

does not pass from mother to foetus the frequent unsuccessful or negative results of antisyphilitic treatment spoke very strongly. He mentioned a case of a syphilitic child born from a mother free from the disease, which had been latent in the father for a long time. At the next pregnancy he had the woman for six months under the mercurial cure, and, nevertheless, five days after birth the child began to develop well-marked syphilitic symptoms. But what spoke strongest against the passage of drugs from the mother to the child was the effect of anæsthetics. Dr. Barker said that during the last twenty-five years he had administered chloroform over one thousand times and had never seen a case where the death of the child could be attributed to chloroform; that he had kept women from eight to twelve hours under its influence, and in one case had given three and a half pounds. He thought that opium acted nearly in the same way. Formerly he had been very careful in giving opium to a pregnant woman, but after his experience in the following case he had always given it without any fear. The case was one of puerperal convulsions; the foetus was thought dead, and morphia was used very freely. The patient was a long time under the influence of the drug, when a living child was born. In conclusion, he said that he considered that the foetus in utero was not affected by medicine, and more especially narcotics, when administered to the mother.

After this, several other physicians concurred in the same opinion. Dr. Gillette spoke against the views expressed by Dr. Barker and others, and was of the opinion that morphia would affect the child through the mother. He cited the case of a pregnant woman with some valvular lesion of the heart, who during her labor was under the influence of morphia; when the child was born it was very much asphyxiated, and acted, Dr. Gillette said, as if it had been poisoned with opium. (Perhaps the asphyxia was due as much to the valvular lesion of the mother's heart and the imperfect oxygenation of the blood as to the morphia.) He mentioned six other cases where morphia had been given and the children at birth were all very much asphyxiated; pulse slower than normal; pupils contracted. In all these cases the labors were normal and the pains not weak. More important, however, are the two following cases which he cited: Two women during labor had one thirtieth and one forty-eighth of a grain of sulphate of atropia. In the first case the child was born in thirty minutes after the administration of the drug, and the child was unaffected by it. In the second case the birth did not take place for three hours, and the pupils of the child were very much dilated and did not contract in a strong light.

Dr. Jacobi thought that the amount of morphia necessary to produce sleep or relieve pain in a woman would be so diluted in the mother's blood that when it came in contact with the foetal circulation it would be harmless.

Dr. Thomas agreed with Dr. Gillette, and thought that opium did produce a marked effect on the foetus. In two cases he had observed that after the administration of morphia the foetal pulse fell in one case from 141 to 119, and in the other from 133 to 118.

Dr. Lusk¹ has a paper on this subject. After trying morphia in labor in his own cases, and from notes of cases of a friend, Dr. Beckwith, of the Nursing and Children's Hospital, he comes to the conclusion that morphia in no way affects the child. In the same journal Dr. Lama-drid reports a very interesting case of death of the foetus, which he attributes to doses of morphia and chloral given two weeks before for neuralgia in a pregnant woman; that after the administration of the drug the motions of the child ceased, and when the child was born it appeared as if it had been dead two weeks.

The evidence seems on the whole to point to the opinion expressed by Drs. Barker, Lusk, and others, that under ordinary circumstances medicines given to the mother produce no effect on the foetus, and only in rare cases can they be said to be hurtful. Of course, before the matter is settled many more careful observations are necessary.

Face Presentations. — Dr. W. Groner² recommends, in cases where the face presents, that the attempt to change this unfortunate position into the normal occipital one should be made. The change can be effected by external manipulation in most cases, and if not by external alone, by combined. The operation he calls Schatz's. He gives three cases, in two of which he was able to bring about this change by external manipulation, and in the other by the combined method, external and internal. Kormann³ reports a case where he accomplished this by the combined method. J. R. Humphrey, M. D., reports⁴ a case of face presentation which he succeeded in changing into the ordinary occipital one by placing the patient in the so-called knee-elbow position.

E. L. Partridge⁵ reports two cases of face presentation, in both of which he was able to bring on the desired change from the face to the ordinary occipital position by the combined method of external and internal manipulation. The operation was performed in the following manner: The os uteri nearly or wholly dilated and the membranes still intact, the patient was placed in a position which was easiest for the operator. The left hand was passed into the vagina, and two fingers pushed through the os; the membranes were then ruptured, but as the vagina was stopped by the hand the liquor amnii was prevented from escaping. Two fingers were hooked over the occiput, and it was dragged down into the cavity of the pelvis; the right hand was used to press on the

¹ American Journal of Obstetrics, July.

² Archiv für Gynäkologie, volume xi., part 2, page 235.

³ Deutsche medizinische Wochenschrift, No. 5.

⁴ American Journal of the Medical Sciences, January, 1877.

⁵ New York Medical Journal, March, 1877.

fundus of the uterus and hold the child in the new position. The occiput was held down as long as possible, and the external pressure was kept up until the head was well engaged. The rest of the labor was normal.

Influence of Posture on Women. — J. H. Aveling, M. D.,¹ has written a long article on the influence of position on woman in regard to menstruation, ovulation, pregnancy, labor, etc. He says that posture has a marked effect on ovulation and the anomalies of menstruation; that women who are in the habit of sitting or working in one position are more liable to hyperæmia of the ovaries; that abdominal and tubal pregnancy is sometimes due to the effects of position; and that some of the various troubles of menstruation are influenced by the position which women keep.

The ordinary position of the woman during coitus is often a cause of sterility, and with a change of posture pregnancy will sometimes occur. During pregnancy the posture of the woman may cause change in position in the os uteri and uterus itself, and that toward the end of pregnancy unfortunate position or movement may cause the labor to begin. That position has a marked influence over labor is well known, and during the child-bed sickness the position on the back, if kept constantly, will often cause trouble. He recommends, therefore, during child-bed, change from the back to the side often; that at meal time and when the child is being nursed it is advisable for the woman to sit up in bed; and to prevent the lochia from remaining in the vagina and also to aid in thoroughly emptying the bladder the woman should get on her hands and knees for a few moments.

The Passage of Salicylic Acid and Iodide of Potash from the Mother into the Liquor Amnii. — Max Ruerge² has an article on this subject of some length, and as the result of trying many experiments he comes to the conclusion that, after giving a pregnant woman salicylic acid in twenty-five grain doses from ten to fifteen days, or about half as much iodide of potash, a very slight trace of these substances can be detected in the liquor amnii; but he considers it most probable that the passage is not direct from the woman's blood to the liquor amnii, but that it first goes into the blood of the foetus, and from the foetus probably through the urine of the same into the liquor amnii. The amount discovered is always very slight, and it is only with the most delicate tests that it can be detected.

New Forceps. — M. Tarnier³ has invented a new pair of forceps which have a third curve. The handles are curved like a letter S: the upper segment represents the blades, the lower the handles. In

¹ The Obstetrical Journal of Great Britain and Ireland, from January to April.

² Centralblatt für Gynaekologie, No. 5.

³ Annales de Gynécologie, March, 1877.

the lower ends of the blades two traction shafts are fitted, possessing a curve corresponding to that of the handles. A cross-bar unites them at their lower ends, and is the point from which traction is made. There is a screw on the handles by which the blades are tightened over the foetal head. Each blade is applied with its traction shaft adjusted. M. Talmier asserts that by means of these forceps the traction can be made always in the direction of the axis of the pelvis, whatever may be the position of the foetal head. He says that it is a real instrument of traction, and not a lever like the ordinary forceps. It allows the foetal head to follow the curve of the pelvis with freedom.

Instrumental Delivery without the Knowledge of the Patient. — Dr. James Braithwaite¹ describes a new forceps with which he has delivered thirty-eight times in three hundred and eighty-four labors, and thirty-seven children were born alive. Often he has been able to use them without the knowledge of the woman. The instrument is much lighter than the ordinary forceps, and has this peculiarity, that it is introduced as one blade. One of the blades fits into the other, and is held in position by a cap which passes over the ends of the handles. When the instrument is introduced the cap is removed, and the two blades are twisted into position. The blades are introduced into the hollow of the sacrum. The blades are then locked in the ordinary way and the foetus extracted.

(*To be concluded.*)

PROCEEDINGS OF THE PROVIDENCE MEDICAL ASSOCIATION.

V. O. HARDON, M. D., SECRETARY.

APRIL 2d. DR. H. G. MILLER reported a case of neuro-retinitis, in which there was no loss of vision throughout the whole course of the disease. The patient was fifteen years old, and came under observation on account of diplopia caused by slight paralysis of one external rectus. She had been ill for three weeks and had been treated for "brain fever." When seen, complained of frontal headache and double vision. Sharpness of vision was perfectly normal. Examination by the ophthalmoscope revealed an exceedingly well-marked neuro-retinitis. The optic disks were congested and swollen, and the veins very tortuous. Iodide of potassium and rest and tonics were ordered. In one week there was improvement in her general condition, but the ophthalmoscope showed an increase of the disease in the eye, but still without any loss of vision. After five or six weeks' treatment the swelling of the optic disks began to subside. Patient has been under treatment for more than a year, and the disks have now returned nearly to their normal state, though the veins still arch a little more than natural in coming out. There was probably

¹ The Obstetrical Journal of Great Britain and Ireland.

at first a commencing meningitis which ceased, and the inflammation extended along the sheath of the optic nerve to the retina without destroying the fibres of the nerve itself.

Hughlings Jackson gives cases similar to this, and in the reports of the London Ophthalmic Hospital cases are narrated with illustrated plates. At the Ophthalmological Congress in New York several such cases were also reported.

MAY 7th. DR. MITCHELL gave an account of the sickness and death of the late Dr. Thomas P. Shepard. Until Monday, April 30th, he had enjoyed usual health. That evening he thought he had taken cold, took a Dover's powder, and retired early, waking the next morning with pain in left ear, to which he attached no importance. He continued to attend to business until Thursday, when the earache had become so severe that he remained at home all day. That evening he was somewhat delirious, and Friday morning was partially unconscious. Dr. Mitchell was called at 12.30, and found his patient in a stupor. There was slight diffused redness and puffiness extending from the left ear to the angle of the jaw. Dr. Miller was called in consultation and at four P. M. the membrana tympani was punctured, serum and a slight amount of pus escaping. Dr. Shepard continued to fail, and at 7.45 Saturday morning had severe general convulsions. He became cyanotic during the day, and died at 3.45 P. M. At the post-mortem examination evidences of acute meningitis were found, nearly the whole surface of the brain being covered with a fibrinous exudation within the cavity of the arachnoid. The dura mater was inflamed over the petrous portion of the temporal bone and bathed in pus on its inner surface. Beneath this was a minute opening, probably a vascular foramen, into the mastoid antrum, which with the upper part of the middle ear was filled with thick pus.

DR. ANTHONY reported a case of fractured skull without immediate unconsciousness, with sudden death on the ninth day. The patient, a stout, middle-aged man, fell twenty feet into the hold of a steamship. A fracture of the lower third of the right radius with dislocation of one metacarpal bone, a slight cut on the forehead, and the loss of one incisor tooth were the only appearances of injury. He complained of pain in the lower jaw and answered questions rationally except as to his residence. He was kept quiet, taking one fourth of a grain of opium occasionally. On the sixth day he complained of pain in the back of the head and intolerance of light, symptoms which increased in severity on the seventh and eighth days, and he died suddenly on the morning of the ninth day. From receipt of the injury until death, his pulse was at no time below 60 or above 70 per minute, and at no time was he delirious or comatose.

On removing the scalp, eight hours after death, an irregular fracture of the frontal bone was discovered, involving both orbits. About two ounces of clotted blood were found between the calvarium and dura mater. No effusion into meninges. Brain tissue normal, excepting one small spot under a fragment of detached bone, where softening had commenced.

DISEASE OF THE MIND.¹

THE paper on Disease of the Mind, by Dr. Charles F. Folsom, secretary of the State Board of Health, in the last report of that board, has been republished in the form of a neat monogram. This will be a convenience to many readers who should be interested in its contents, and to whom the report may not be accessible. Dr. Folsom deserves well of the profession and the public for this contribution to our knowledge of recent progress in the management of the insane in Great Britain. This is really the *gist* of the book. In our brief notice we must pass by the first thirty-four pages of history as familiar ground to many, and of less practical importance than what comes under the head of Modern Methods of Less Restraint. Suffice it to say that the author does justice to American progress, and shows that twenty years ago we were in advance of foreign countries in all that related to the best interests of the insane.

During the last twenty years Dr. Folsom thinks the English and Scotch asylums have taken the lead. This he attributes (1) to the influence of the Board of Commissioners in Lunacy; (2) to the introduction of clinical teaching and pathological investigation; and (3) to the fact that the British Medico-Psychological Association has admitted physicians who are not superintendents. Let us note in passing that the recently formed New England Psychological Society has done the same. He gives a letter from Dr. Stearns, of the Hartford Retreat, who says he was impressed with the following points in the Scotch asylums: (1) occupation; (2) non-restraint; (3) personal freedom; (4) pathological investigations.

In regard to occupation Dr. Folsom gives no statistics, except what may be extracted from a letter of Dr. Fraser, of the Fife and Kinross Asylum, who considers constant employment a necessary adjunct to non-restraint. He says: "At present date all the male patients, except from five to eight, are sent out every day." He employs 130 out of 138 females in sewing and house-work. Dr. Wilbur² visited this asylum in 1875, and made a copy of the register of work for the previous day. He found 214 out of 261 had been at work; at the Midlothian and Peebles Asylum, 148 out of 168; at the Argyle and Bute Asylum, 185 out of 217; at the West Riding Asylum in England, 1017 out of 1407. This is an average of 75 per cent. employed, and is the result of special and systematic efforts, aided by favorable conditions, climatic and personal. Perhaps this percentage could be matched by some of our hospitals in agricultural districts during the season most favorable to out-door employment, but we have no statistics which can be compared directly with these. Dr. Earle, of Northampton, gives the number of days' work for the year, which is the only way to get an exact idea of the amount of work performed. In 1876 an average of 475 patients did 15,600 days' work. This is 33 days per patient, or, if 75 per cent. were employed, 44 days. This does not include house-cleaning, bed-making, or table-work, as do the Scotch asylum figures, nor much

¹ *Disease of the Mind*. Reprinted from the Annual Report of the State Board of Health. By CHARLES F. FOLSOM, M. D.

² Report on the Management of the Insane in Great Britain, 1877.

work done at irregular times "on the ornamental grounds, at the stable, in the bakery, the boiler-room, and the carpenter's shop," which is unfortunate, as it would probably double the number who could be said to have been employed. We do not know what percentage of patients in the above-mentioned foreign asylums were employed every day of the year.

Notwithstanding this difficulty of comparison, I think it cannot be denied that out-door labor especially is more generally and largely in practice in the asylums of Great Britain than in the United States. There is a conviction prevalent here that forcing employment much beyond the easily available working material "does not pay." House-work and farm-work absorb nearly all this, and there are practical difficulties in the way of enforcing labor on patients unwilling to work. There is no general or prescribed registration of labor to stimulate superintendents by comparison of results. The shops for varied mechanical occupation introduced at Utica by Dr. Brigham, in 1847, are said by Dr. Wilbur to have fallen into partial disuse under Dr. Gray. Of the asylums above mentioned it is only at West Riding that many patients are mechanically employed, and here, too, they are only employed in shops necessary to the carrying on of an establishment for fourteen hundred patients. This is the case in our own asylums. As to its desirability, it seems undeniable that regular employment suited to the mental and physical condition of the patient is necessary, especially for the comfort and well-being of the chronic insane. This being the case, there should be afforded in all our asylums sufficient opportunity for such employment, regardless of trouble or expense. Systematic registration of labor would tend to increase its use.

The position of American superintendents on the use of mechanical restraint has often been explained, and perhaps too much insisted on. There is really but little difference as to the theory of its use between our own and foreign asylums. Dr. Clouston says, in a letter to Dr. Folsom, quoting from his last report: "I do not believe that non-restraint should be so elevated into a principle that no departure from it is allowable." Dr. Sheppard expresses a similar opinion and adds: "I believe its use to be neglected in many asylums to the detriment of the patients." Many other authorities might be quoted to the same effect. A few think it should never be used. The degree to which it may be disused is, after all, the important question. Drs. Bell and Ray thought one or two per cent. only needed it. We have no statistics to show what the average percentage is in this country. In many asylums it is probably one or two per cent., in some more, and in some less. In English asylums it is frequently disused entirely on principle. In some the right to use it is claimed, but seldom or never exercised, and in others the percentage is about the same as with us. Seclusion is also largely disused, but is preferred to mechanical restraint, and is frequently substituted for it. The *Lancet* (June 2, 1877) says, in an editorial on Chloral in Asylums: "We believe the recourse to drugs to produce quietness is extant in a majority of our asylums, and in too many instances constitutes the alternative form of repression, without which quiet wards could not be secured under the system in force in the absence of mechanical restraint or manual coercion."

Dr. Folsom gives the opinion of a "recognized English authority" that there

is some force in the argument about the American people being less easily controlled. "He finds that most patients who have returned from America kick against discipline of any kind." Dr. Folsom thinks the golden mean will be found somewhere between the practices of the two countries, but nearer the English side. He notices the fact that ten years ago many accidents happened in English asylums of a kind almost unknown to us, apparently from rough handling by attendants. These, he thinks, are diminishing. In this country personal restraint is considered the worst form, and that is probably the English opinion at present.

Dr. Folsom's table of Fatal Accidents for Ten Years in Asylums for the Insane does not prove much, nor does he claim that it tends to show more than that a diminished use of restraint does not increase the percentage of fatal accidents. As between the United States and Scotland, the former presents the best record, namely, 1.84 to 2.04 per 1000. Between England, Scotland, and Wales together and the United States the ratio is 1.57 to 1.84, a difference which affords little reliable evidence. The ratio per thousand of England is 1.09, but it is hardly fair to compare England alone with the heterogeneous population of the whole United States. No statistics from Ireland are given, and perhaps none were obtainable.

The exclusion of non-fatal accidents also prevents the table from having any value in its bearing on the effect of diminished restraint. This comparison was impossible because our asylums have no registration of accidents, and there is also evidence to show that the English registration is unreliable. The reviewer of asylum reports in the *Journal of Mental Science*,¹ after stating that superintendents are bound by law to enter all minor injuries, goes on to say that a superintendent candidly admitted that he "never entered such injuries as bloody noses, black eyes, and ordinary scalp wounds because he did not think them of sufficient importance, and also because if he once began he would have nothing else to do"! The same writer gives a list of what may be called major injuries occurring at the Birmingham Asylum in a single year. These were "two broken legs, one broken thigh, two broken collar bones, one broken rib, two fractures of the neck of the femur, a dislocation of the shoulder, a thigh badly gored by a hog, an accidental amputation of a finger, and two cases of accidental suffocation." This experience was probably exceptional, and may have had little to do with the percentage of restraint, but it shows at least of how little value a table of fatal accidents is without the non-fatal and minor injuries. Neither is it safe to infer that there will be the same proportion of each.

The same reviewer writes: "It is every year becoming a graver and more important question whether the determined set against seclusion, which has obtained for so long, has not been in itself a mistake. It is certain that there is a disposition on the part of some to break down the hard and fast lines which have hitherto been followed, and to judge every case on its own merits." A reviewer of the last report of the Lunacy Commission² says: "One point more seems to call for observation, namely, that the employment of mechan-

¹ Maudsley's *Journal of Mental Science*, January, 1877.

² *British and Foreign Medico-Chirurgical Review*, January, 1877.

ical restraint has somewhat revived in our asylums, and that an increasing opinion obtains that it is in some instances a necessary and salutary means of treatment and management. This circumstance betokens a considerable revulsion of sentiment within the last ten or twelve years." It also appears, from the same authority, that "the Commissioners in Lunacy have lapsed from their old ardent advocacy of non-restraint, for which they battled many years with recusant asylum physicians." These opinions show a tendency to reaction towards that "golden mean" which all will grant is so desirable.

The question of allowing greater personal freedom to patients admits of a more profitable discussion. The recent progress of the Scotch asylums in this respect is fully explained in the letters of Dr. Fraser, of the Fife and Kiurross Asylum, and Dr. Clouston, of Morning Side, Edinburgh. The former is a district asylum with an average of about two hundred and fifty patients. There is one attendant to twelve patients. The windows have wooden sashes with three eighths inch brass rods running across the lower half, which could easily be wrenched out by the hands. There is no such thing as an iron-barred window in the house. The visitor can be conducted in at the front door through the male wing, into the female wing through the dining-room, and thence through five out of seven of the female wards without once unlocking a door. The outer doors of the ground wards are also unlocked. Two wards on the female side require to be locked on account of three chronic maniacs and two or three demented or suicidal patients. Another detached ward for chronic maniacs is kept locked. The male convalescent building is open from seven in the morning till eight at night. An attendant and his wife have charge. No one from this ward has broken his parole for two and a half years. Dr. Fraser has abolished his airing courts. In case of outbreaks of violence he puts the patient in seclusion. Dr. Fraser thinks the restraint by attendants the worst form.

Dr. Clouston says he has twenty-two out of seventy patients of the higher class on parole and living in cottages or pavilions whose arrangements are perfectly home-like. Throughout this whole department he substituted, in 1874, large plate-glass for small panes. He uses restraint and seclusion very seldom in the east house, for higher class patients, but oftener in the west house, for paupers, from having fewer attendants there. In 1876 he writes approvingly of the plate-glass, and says that he has abolished airing courts as tending to make attendants less watchful. He has begun putting plate-glass in the west house, and is gradually increasing his staff of attendants, which he thinks should be in the ratio of one to three for the better class and one to eight for paupers. This change, he says, is made without reference to the plate-glass and open doors which are found in some of his wards. He says he deliberately runs risks as to escapes and even suicides, and so do our superintendents when they put large numbers on parole or send two thirds of their patients on frequent harbor excursions.

Sir James Coxe, of the Scotch Lunacy Commission, writes that none of the new asylums are fitted with bars other than the brass rods. When these are not used the opening capacity of the sashes is restricted to about six inches. The above and similar methods of increasing the personal freedom of patients

are also in use at the Brook Villa, the Rainhill County Asylum, and at West Riding in England. Professor Westphal, in a letter to Dr. Folsom, states that the English non-restraint system is being tried at Hamburg, Halle, Göttingen, Berlin, Hall (Tyrol), Heppenheim, Neustadt, Eburwalde, and in German Switzerland. Window guards have been given up wholly or in part at Roeskilde on the Island of Zealand, Denmark, and at Hamburg; the new asylum at Marburg is to be wholly without them. At Munich plate-glass too strong to be easily broken is being put in.

Although these improvements are still in the experimental stage, they are experiments in the right direction. There is no doubt that a greater amount of personal freedom, real and apparent, might be allowed to many patients who now submit to a show of imprisonment for the sake of others less trustworthy. As far as this excites a feeling of injustice, or resentment, or degradation, it does harm, and demands immediate remedy. In our asylums the quieter patients are allowed much real freedom. They can go and come about the house and grounds simply by asking to have a door unlocked, and they realize that they are kept by the necessities of the case rather than by bolts and bars. If any plan can be devised to meet the wants of both classes in the same structure or in detached wards, it should be adopted.

We have not space to discuss the necessity of a permanent commission in lunacy. If established, we think one of its best functions would be to authorize the trial of the above improvements. This, in addition to the collection and comparison of statistics of labor-restraint, accidents, and injuries, would, we think, justify the appointment of such a commission, unless the same results could be brought about in some better way.

It would not be impracticable, it seems to us, to set apart either the new Worcester or the Danvers Asylum for experimental purposes. Nearly all the reported improvements could be introduced with little change of structure. Even pretty cottages could be built on the farm, like those of which heliotypes are given, costing less, probably, per patient than the Danvers Asylum. Every asylum should be at once allowed a pathologist, resident or otherwise. It is certainly time to decide by actual experiment whether the English and Scotch improvements are suited to asylums in the United States.

T. W. F.

MANUAL FOR MEDICAL OFFICERS.¹

A NEED has long been felt by medical officers in the militia of a work which should give concisely and plainly the various duties pertaining to their office. That need has now been met, and the manual prepared by Dr. Forster is an admirable *résumé* of all that a medical officer, whether serving in the regular army or militia, should know in order faithfully to discharge the duties which belong to his department. The book has been examined by a medical board, and on their recommendation has been adopted for the use of the medical officers of the Massachusetts Volunteer Militia. There can be no question but that it will be found to be of great value to all for whom it was intended.

¹ *A Manual for Medical Officers of the Militia of the United States.* By EDWARD JACOB FORSTER, M. D. New York: Hurd and Houghton. 1877. Pp. 102.

THE GROWTH OF CHILDREN.¹

THE author embodies in this article a report of a series of investigations undertaken for the purpose of studying as far as possible the many important questions connected with the growth of children, such as the influence of sex, of race, of climate, and of age upon the rate of increase in weight and height. For this purpose there was made, with the assistance of the teachers, a systematic measurement of the pupils of the public schools of Boston and vicinity, as well as of several private schools, the whole number of observations amounting to 24,500.

The results of these investigations we find in a series of tables and plates containing a very valuable array of figures from which the author draws his conclusions. The tables are fifteen in number, and there are an equal number of plates. In the latter the graphic method has been adopted, so that by means of curves the important conclusions which are to be drawn from an examination of the tables can be seen at a glance.

In the chapter explanatory of the method of investigation it is made evident that the author has left nothing undone to prevent inaccuracy or error from creeping in.

The conclusions, which seem to be justified by the data contained in the above tables, are summed up as follows:—

I. The growth of children takes place in such a way that until the age of eleven or twelve years boys are both taller and heavier than girls of the same age. At this period of life girls begin to grow very rapidly, and for the next two or three years surpass boys of the same age in both height and weight. Boys then acquire and retain a size superior to that of girls who have now nearly completed their full growth.

II. Children of American-born parents are, in this community, taller and heavier than children of foreign-born parents, a superiority which seems to depend partly on the greater average comfort in which such children live and grow up, and partly upon differences of race or stock.

III. Pupils of American parentage at the public Latin School, private Latin School, and Massachusetts Institute of Technology are (apparently for similar reasons) superior in height and weight to the generality of boys of American parentage attending the public schools.

IV. Pupils of the same selected schools are also taller and heavier than English boys of the non-laboring classes attending public schools and universities, the superiority in weight being, as a rule, more marked than that in height.

V. The relation of weight to height in growing children is such that at heights below fifty-eight inches boys are heavier than girls in proportion to their stature. At heights above fifty-eight inches the reverse is the case.

The above summary gives but a very imperfect idea of the amount of valuable material collected as a result of these investigations. Many of the data

¹ *The Growth of Children.* By H. P. BOWDITCH, Professor of Physiology, Harvard Medical School. Eighth Annual Report of the State Board of Health of Massachusetts. January, 1877.

which are presented in the tables it is impossible for the moment to utilize. Some of these are reserved for future work, while others do not give a sufficient number of observations to justify drawing general conclusions from them, or need collections of similar statistics in other communities with which comparisons may be made. The author, in conclusion, enumerates briefly the several points to which the attention of the collector of vital statistics may be profitably directed.

Dr. Bowditch's paper deserves attention not only for the intrinsic interest of the subject, but as a model to be studied with advantage by all those who may propose to engage themselves in similar work.

MARINE HOSPITAL SERVICE.

THE medical profession should be congratulated that one of the most striking instances of civil service reform exists in a department of the government having a physician at its head, to whom we are indebted for a complete revolution in the system of its administration. We have from time to time called attention to the reports of the supervising surgeon-general, Dr. Woodworth, but we feel that the profession is not fully aware of the great improvements which he has quietly introduced, making this service second to none in point of discipline and organization. To this department is intrusted the care of the merchant marine of the country, of the one hundred and thirteen thousand seamen of our registered vessels. As the number of seamen in the navy is not over eight thousand, and our army does not exceed twenty thousand men, we have in the marine service a field for the exercise of no small amount of executive ability. It has no connection with the navy, but reports through its chief officer, the supervising surgeon-general, to the secretary of the treasury.

From its establishment in 1798 until 1873, appointments of medical officers of this service were made without any preliminary examination. The result was that men unsuited for the work frequently found their way into the ranks. The service was far from efficient in its operation. Many of its surgeons were of a low grade of professional standing, and owed their positions to political influence. Each hospital was managed on an independent basis, and was subject to the caprice of the surgeon in charge. By reason of failure to collect the hospital dues in a proper manner the service was in arrears every year, and a large appropriation was called for annually from Congress. The hospitals were for the most part dirty and ill adapted for the uses required of them. Since 1873, however, the medical staff has been appointed after a full and searching examination conducted by a board of surgeons on a plan very much resembling that employed in the army and navy. This great improvement is largely due to Dr. Woodworth, who, with his assistants, has made the organization of the service commensurate with its needs without the aid of legislation. It would relieve him, however, from much embarrassment and place the new changes upon a more solid basis were provision made by law for these examinations. The hospital fund is a trust in the hands of the government

derived from the wages of seamen, and should in no sense be employed to benefit those who seek rewards for political services.

The effect of this change in the system has been marked, and shows itself in the increased efficiency of administration, and in the improved appearance and condition of the hospitals. The hospital at this port is at present in charge of one of the new *régime*, Dr. J. B. Hamilton, a highly educated officer, formerly in the army, and one thoroughly acquainted with the marine service. The hospital, we need hardly say, is conducted on strictly marine hospital principles.

We would also call attention to an examination by the board in June last, in which a former editor of the JOURNAL, Dr. Francis H. Brown, acquitted himself with the highest honors. Dr. Brown's experience in hospital administration will fit him for his duties in this new field, and we may add that we can see no more favorable sign of the healthy tone of the service than that men of standing like these should seek positions in it.

MEDICAL NOTES.

— Dr. Isidor Schnabel, for many years first assistant of Professor Arlt in Vienna, has received the appointment of professor of ophthalmology in Innsbruck.

— We see by a recent exchange that Professor Billroth has gone to St. Petersburg to perform an operation.

— According to J. Paneth, *Centralblatt für die medicinischen Wissenschaften*, June 2d, the epithelium of the urinary bladder appears under two distinct forms, according as the organ is contracted or filled with fluid. In the first case the upper layer of cells are broader than they are high, though they are not so flat as pavement epithelium usually is. The second layer consists of tall cells, which from their form are rather to be classed among the cylindrical cells; they are pointed at the bottom, sometimes toothed, trumpet-shaped or nail-shaped, and the oval nucleus lies in the upper half or third of the cell. Below this layer come cells with a small body and relatively large oval nucleus. The boundaries which separate the cells are not very distinctly seen for the most part. In the bladder of a recently killed animal filled with absolute alcohol and then sunk in the same fluid, the epithelium appeared differently. It then consisted entirely of flat pavement cells. Cells which were higher than their breadth were wholly absent; on the other hand, the cells on the bottom were flatter than in the middle layer. In moderately filled bladders transition forms between the two above-described forms of epithelium were observed. In making examinations of urine it is well to bear these observations of Paneth in mind before deciding on the source of epithelium.

— Dr. J. Bartlett Rich, of Bethel, Maine, has been appointed superintendent and resident physician at the Worcester City Hospital, in the place of Dr. Charles A. Peabody, who has resigned in order to accept the position of port physician, Bombay, India. Two new pavilion wards have been added to the hospital since last year.

— The death of Dr. Abram Sager, of the University of Michigan, a graduate of the Sheffield Scientific School, is announced as having occurred in Detroit. Dr. Sager was a member of the American Association for the Advancement of Science; of the Academy of Natural Sciences of Philadelphia, and the Academy of Science of Chicago; of the American Medical Association; of the New York State Medical Society, and of the Obstetrical Society of Philadelphia. He was the author of a variety of papers in the *Peninsular Journal of Medicine* and *Detroit Review of Medicine*, besides papers in the *American Journal of Science*, and in the proceedings of the Academy of Natural Sciences at Philadelphia. He was a distinguished botanist. He was married in 1838 to Sarah E. Dwight, daughter of Darius Dwight, of Detroit, and five children survive him.

Dr. Sager was, it will be remembered, the only member of the faculty at Ann Arbor who resigned when the homœopathic appointments were made.

— Professor Nathan Ryno Smith, of Baltimore, died in that city on Tuesday, July 3d, in the eighty-first year of his age. He was born in the town of Cornish, New Hampshire, on the 21st of May, 1797. His father, Professor Nathan Smith, was at that time professor of medicine in Dartmouth College, New Hampshire. In 1813 the father was elected professor of surgery and medicine in Yale College, and soon after removed to New Haven. The son entered the freshman class of Yale College in 1813, and took his degree in 1817. He received his medical degree from Yale in 1823. In 1825 he was appointed professor of surgery and anatomy in the University of Vermont, and organized the medical school of that institution. In 1827 he accepted the chair of surgery in the medical department of the University of Maryland, which he filled until 1870. He invented the apparatus commonly known as "Smith's anterior splint" in 1860. His private practice was very large, in which his son, Dr. A. P. Smith, succeeds him. He may be considered as one of the most prominent of American surgeons.

— Since the inauguration of the crusade of the authorities against unlicensed dogs, between two and three hundred have been killed. Many of these animals were diseased. Many were taken from poor families unable even to support themselves; most of them were caught in the lower quarters of the city, and of the entire number killed there were not more than three well-bred dogs.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. HOMANS.

Popliteal Aneurism; Ligature of the Femoral Artery; Recovery.— T. S., aged twenty-eight, laborer, entered the hospital June 4, 1877. He was a rugged, healthy man, but very intemperate. The aneurism was situated in the left popliteal space, and was about three inches in diameter. The impulse and dilatation of the tumor were very distinct. The growth was first noticed about four months ago, and was then the size of a walnut. The patient was unable to work on account of the pain. The left leg was nearly an inch larger round than the right at the time of his entering the hospital.

A tourniquet was applied to the femoral June 5th, and allowed to remain only two hours and a half because of the severe pain. It was used to slow the current of blood in the artery, but not to stop it entirely.

The leg was then kept firmly flexed upon the thigh for three days, with no apparent benefit. The pain and numbness of the foot and leg were very severe in spite of a free use of opiates.

June 19th. The patient was etherized and the femoral artery tied with a silk ligature in Scarpa's triangle by Dr. Homans. Pulsation in the tumor immediately ceased. The wound was closed with sutures, and the limb wrapped in cotton.

Five hours after the operation the patient was comfortable. Pulse 72. The temperature, as taken by a fever thermometer, was two degrees lower in the left popliteal space than in the right.

June 20th. The patient was comfortable aside from the numbness and prickling sensation in the left leg and foot, which had troubled him ever since the compression was applied. The temperature in the right popliteal space was 98.6°, but only 95° in the left.

Three days after the operation the temperature of the left leg was one degree higher than that of the right. At other times it was almost always lower both to the hand and by the thermometer.

Pulsation was felt in the dorsal artery of the foot four days after the ligature of the femoral. The sutures were all out of the wound and it was doing well. The patient was very comfortable.

The ligature came away on the twentieth day. The veins were enlarged and the leg weak. In thirty-three days the patient was walking about by the aid of crutches. The aneurismal tumor had shrunk to one half its former size, and was devoid of pulsation. There was still some pain and numbness in the foot, but it was diminishing.

Compound Dislocation of Foot; Amputation of Leg; Recovery. — J. McD., laborer, aged twenty-eight years, sustained a compound dislocation at the left ankle-joint by a heavy iron water-pipe falling upon him June 26, 1877. On his entering the hospital the foot was attached to the leg by only a few shreds of the soft parts on the outer side. No bones were fractured.

Eleven hours after the accident Dr. Homans amputated the leg at the middle third by the flap method. The larger vessels were secured by ligatures, but to check the free hæmorrhage from the bruised muscles recourse was had to sponges dipped in ferric alum, which were placed between the flaps and secured by a firm bandage. The bleeding was in this way effectually controlled, and the patient rallied well from the operation.

In spite of profuse suppuration and a tendency of the flaps to slough, the patient did well. The ligatures all came away in fifteen days, and left the stump in an excellent condition.

At the end of a month the patient was doing well, with the exception of a slight necrosis of the tibia.

Dr. Homans amputated the leg of a man in this hospital a year ago, for a similar injury. The patient's right foot had been caught beneath a locomotive, which was being unloaded from a truck, the ankle-joint torn open, and the foot

displaced outwards. The soft tissues were extensively lacerated, but the only fracture was that of one of the cuneiform bones. The leg was amputated at the junction of the middle and lower thirds, and the patient was discharged well in sixty-one days.

LETTER FROM VIENNA.

MESSRS. EDITORS, — The following few items with regard to some modern improvements will probably interest all who busy themselves much with practical psychology and embryology. The various so-called improvements here mentioned have been pretty thoroughly tested by myself as well as by many collaborators in the same laboratory, and I here lay before you the resulting opinions.

The “gelatine method” of Dr. Ludwig Loewe, of Berlin, is, I suppose, comparatively unknown in America, it being almost quite so in Europe, and had not the author himself practically convinced me of the many advantages of this process I should never, I believe, have attempted its application. It is now about a year since his publication of a description of the process in connection with a paper on *Der Binde substanz im Centralnervensystem der Säugthiere*; since that time it has been used in the embryological and histological laboratory of the Vienna University with such perfect satisfaction that now no other method is followed in this laboratory for embryo and brain cutting. The gelatine, if well prepared, does not in the least obscure the field. The formula for its preparation is: One part gelatine or clear calves’-foot jelly, one part glycerine, and five parts water. This is put upon the water-bath and thoroughly dissolved, the mixture being constantly stirred. When the solution has been well cooked on the bath it is taken off, and after straining through a clean towel is allowed to cool, after which it is ready for use. The specimen to be cut must previously have been thoroughly colored, and this is the only difficult part of the process. For example, a medulla oblongata will often take from one to three weeks in the best of carmine to color well and thoroughly; an embryo one to two centimetres long usually requires the same length of time. After coloring, the preparation is well washed in water and then submerged in the gelatine at a temperature of not more than 40° R. In this temperature the preparation remains until the gelatine has saturated it completely, — from one to three days, — and is then taken out. A piece of holunder pith (*holunder mark*), or if necessary several pieces side by side, are cut flat upon one side, and the preparation laid upon it, the gelatine being dropped upon the latter so as to cover it and fix it to the pith. After cooling a few minutes the whole is put into *absolute* alcohol, where it remains a few days, the longer the better, and is ready for the microtome. For free-hand cutting it were a superfluous process, it being demanded only for cutting large sections of brittle preparations, such as brain, lung, embryo, larynx, etc., where the microtome is usually indispensable, not every one possessing the “gift of making sections.” The microtome having been filled with warm fluid wax, the preparation is immersed in it. After cooling, the wax is cut away, so that the knife does not come in contact with it in cutting. Before making each section a drop of oil of cloves is applied to the preparation, and the subsequent cut is

ready for the slide, — a drop of dammar-lac and a deck-glass, — and the section is done. The cuts are thus preserved in the regular order of their relations to one another. Dr. Loewe uses Canada balsam (thirty) and oil of benzole (seventy), but I find that dammar varnish answers as well.

With regard to coloring, I am sure that as a general dye those who have made most experiments with colors will agree with me that the best agent is carmine (one), water (one hundred), and sufficient ammonia to render it *markedly* alkaline. Hæmatoxyline stands next, then come picro-hæmatoxyline, and picro-carmine. These latter are excellent for coloring sections of skin. The new dyes, eosine and purpurine, do not answer for microscopical work; they color too brightly and intensely, no matter how weak the solution may be.

Attention has again lately been called to Ranvier's application of iodine solution to cartilage; the mahogany-brown coloring which results therefrom is supposed to be due to glycogen. Chemical investigation has, however, failed to uphold this theory as yet.

The method proposed by H. R. O. Sankey¹ of coloring brain with aniline black can meet with but little favor with any one who has a microtome at his disposal. This method consists in making sections one eighth of an inch thick, then coloring in aniline black, drying on the slide for one or two days, then planing down the cut to the required thinness with a small plane made for the purpose, or with a razor. This method possesses no evident advantages over the carmine coloring, inasmuch as good carmine colors every part and penetrates the whole preparation, whilst aniline black dyes only the outer portion, no matter how long it is permitted to lie in it.

The simplest and I think the best microtome is the modified Dudden's. The modifications were added by Prof. S. L. Schenk, and partly by myself. The apparatus is to be fixed into a hole made in the table for the purpose. If desirable, a clamp-screw may be substituted for the plate, so as to be able to fasten it to the edge of the table; this is, however, a much more expensive addition than the plate. There are eight of these apparatuses in use at our laboratory, and all give great satisfaction. The parts are so united that upon loosening the screws the whole may be taken out of the cylinder together, in order to allow the application or removal of the pan. The upper surface of the cylinder is covered with a glass plate, in order to facilitate the movements of the knife. The pan is used exclusively for brain cutting under alcohol, for which purpose the knife will be found sufficiently broad and thin for making sections of all dimensions. The section, after being made, is floated carefully on to a slide by means of a camel's-hair pencil, taking care, if possible, not to touch the section directly; the slide and preparation are then lifted out of the alcohol, and oil of cloves is applied to the section until the whole is uniformly transparent; then when the superfluity of fluid has been allowed to drain away a few drops of dammar-lac and the deck-glass finish the operation. After the lapse of a few days it will be found necessary to apply more dammar-lac to the preparation, on account of the gradual evaporation of the remaining oil of cloves.

In the drawing apparatus of Dr. Jos. Radwaner an ordinary deck-glass is

¹ Collected Papers, University College, London, 1876.

arranged at right angles with the surface of the ocular lens of the microscope. The specimen to be drawn having been first focused, the eye will have a picture of the specimen at a point where it can be traced with a pencil with exceeding ease. It is necessary to get the deck-glass into the correct angle; a little patience always accomplishes this.

Hoping that the greater part of the above will be of interest to the readers of the JOURNAL, I remain yours respectfully, L. S. OPPENHEIMER.

VIENNA, July 2, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING AUGUST 4, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	650	31.38	27.46
Philadelphia	850,856	407	24.86	22.88
Brooklyn	527,830	273	26.89	24.31
Chicago	420,000	214	26.49	20.41
Boston	363,940	187	26.72	23.39
Providence	103,000	46	23.22	18.34
Worcester	52,977	23	22.58	22.00
Lowell	53,678	30	29.06	22.21
Cambridge	51,572	39	39.32	20.54
Fall River	50,372	22	22.71	22.04
Lawrence	37,626	25	34.55	23.32
Lynn	34,524	13	19.57	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	18	35.00	23.57

WE have received a classified catalogue of Macmillan & Co.'s educational publications, with a short account of their character and aim. It contains a list of the English, Greek, and Latin classics, with a brief description accompanying each title. Law and theology are also represented. It is a neatly prepared pamphlet, and useful for reference.

DR. JOHN E. TYLER has been qualified as a member of the commission to revise the system of administering the state charities.

THE new manual for medical officers, prepared by Major Edward J. Forster, surgeon of the fifth regiment, is now distributing to the medical officers of the militia from the adjutant-general's office.

BOOKS AND PAMPHLETS RECEIVED. — The Use of the Obstetric Forceps in abbreviating the Second Stage of Labor. By Edward S. Dunster, M. D. Lansing. 1877.

Communications of the Rhode Island Medical Society for the Years 1876-77. Published by the Society. Central Falls, R. I.

Case of Aneurism of the Hepatic Artery, with Multiple Abscesses of the Liver. By George Ross, M. D., and William Osler, M. D. (Reprinted from the Canada Medical and Surgical Journal, July, 1877.) Montreal. 1877.

The Strumous Element in the Ætiology of Joint-Disease, from an Analysis of Eight Hundred and Sixty Cases. By V. P. G. Wrey, M. D. (Reprinted from the New York Medical Journal, July and August, 1877.)

College of Physicians and Surgeons, New York, Medical Department of Columbia College. Seventh Annual Catalogue. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, AUGUST 23, 1877. — NO. 8.

UNUSUAL CASES IN PRIVATE PRACTICE.¹

BY JOHN G. BLAKE, M. D.

THE following case is interesting chiefly from the careful examination of the condition of the larynx made and reported by Dr. Knight, and also in some degree by reason of the unusual character of the disease and the completeness of the recovery.

Paralysis of both Posterior Crico-Arytenoid Muscles in a Case of Diphtheria; Tracheotomy; Recovery. — Mary G., aged six, in good health up to nine months preceding present illness, at which time she had scarlatina, followed by diphtheria, and narrowly escaped death, a younger brother and sister dying at the same time. She recovered fully, however, continuing well through the summer and early fall. It may here be stated that as far as inquiry and examination, extended over a number of weeks, could be made, there seemed to be an absence of local cause for the severity of the disease above mentioned as well as that which I am about to describe. The house is a new brick structure on the lower part of Broadway, South Boston Point, and within a few hundred feet of the sea; the drains, sinks, water-closets, all of the best workmanship; a dry cellar and an absence of bad smells. The neighborhood is somewhat open to suspicion, as during last winter a family on the opposite side of the street lost three children from a severe form of scarlatina.

The child was brought to my office October 25th, and I learned that for the preceding week a croupy sound had been noticed when she coughed, — which was not often, — and noisy breathing at night while asleep. The voice remained natural. She appeared to be quite well, the general health being good, appetite and strength as usual, and made no complaint of difficulty of breathing or distress in swallowing. An examination of the throat revealed a yellowish exudation on the posterior fauces, with some enlargement of the tonsils, but no deposit upon them. The parents had seen nothing to cause alarm in her condition, and directions to keep her in-doors and to adopt active treatment seemed to them somewhat premature. It was deemed safest, however, to put her on large doses of tincture of chloride of iron and quinine, to paint the throat twice daily with chloride of iron, and to atomize it frequently

¹ Read before the Boston Society for Medical Observation, June 4, 1877.

with the same. This was continued from Sunday p. m. till the following Wednesday, when the voice for the first time became hoarse, and breathing more noisy during the night. The next day Dr. Knight saw her in consultation, and this is his description of the larynx: "Paralysis of both posterior crico-arytenoid muscles (the effect of which is nearly complete closure of the glottis). The larynx was free from exudation or other sign of inflammation, except a patch on anterior surface of posterior wall. The vocal chords perfectly healthy in appearance. The diagnosis between spasm of the glottis — which would give the same position of the vocal chords — and paralysis of the crico-arytenoid muscles is based on the constancy of the condition in paralysis, and the reverse in case of spasm. It would seem as if the paralysis in this case might have been reflex. Where we find this paralysis as a chronic condition, tracheotomy is always recommended at once as a precautionary measure; but where a patient is under constant observation, as in acute disease, and the symptoms may disappear at any moment, delay is considered justifiable."

In addition to the treatment already described, steam was now added. No improvement followed; indeed, from this time the hoarseness became gradually more severe, and by the next afternoon it was evident that tracheotomy would be required. Dr. Knight saw her again about four o'clock, and advised being ready to operate at any time. I saw her at half past six, and was fearful that she would suffocate before I could obtain assistance. Dr. Cheever was hastily summoned, and the operation was commenced without ether. The child was fat, with a short, thick neck, and the incision was made rather too near the sternum. The light from a side bracket was the poorest for the operation, and the result of a number of untoward circumstances was that nearly an hour was occupied. Several times her condition seemed hopeless, and when at last the tube was inserted, artificial respiration and injections of hot brandy, per rectum, were required and continued for some time before the breathing became fully established. I remained with her all night. She rested fairly, and during the latter part of the time took milk very freely. There was nothing resembling membrane expelled before, during, or after the operation. A thick albuminous fluid, tenacious in character, and with a tendency to dry rapidly into hard crusts and solidly obstruct the tube, was the chief source of annoyance to the physician and of danger to the patient. Glycerine and warm water, in equal parts, was used very freely during the night, and a feather quill was passed often into and below the tube. This, with frequent removals of the inner tube, kept the breathing unobstructed until the following night, when I was summoned in haste, and found on arriving that the tube was clear but the breathing had become much impeded. A careful examination showed obstruction of the trachea below the tube, prob-

ably by the drying of the secretion. A vigorous use of the quill dipped in various solvents, which was followed by some coughing, was called for before it was finally cleared. This danger recurred many times within the next five days, and required prompt and intelligent action on the part of the attendants. The success of the case depended, of course, upon keeping the trachea clear, and in this particular instance this meant much more than cleaning the tube, throwing in a little spray from an atomizer, or anointing with sweet-oil. I felt from the beginning that the constant presence of a physician day and night was an indispensable requisite, and this was proved many times while the tube remained. Drs. Stanton, Fleming, Dunn, Quint, and Gorman assisted. I believe that every one of these gentlemen rendered service that saved the child's life, and which no simple nurse, however intelligent, could perform. I emphasize this point, because I believe that some of the deaths after tracheotomy are due to obstruction by the secretion in the trachea below the tube, which educated eyes would detect and skillful hands relieve.

Strength was supported throughout by milk, beef-juice, brandy, and tonics. After six days the tube was removed, and in ten days more the opening closed.

Among the many applications resorted to was jeweler's oil, which, on account of its non-drying qualities, was supposed to answer a better purpose than the ordinary almond or olive oils. A good deal of harshness of breathing continued for some time, due, probably, to inflammatory thickening at the seat of the wound, but this gradually yielded to time and inunction of iodine ointment. The child became, and has since continued, perfectly well.

Ovariectomy; Recovery. — Mrs. Mary A. K., fifty years of age, American by birth, the mother of four children, youngest eleven years old, all living, has not been pregnant since the birth of the last child; is of light complexion, slight frame, and nervo-lymphatic temperament. Her habits were active, and she was used to a good deal of exercise and what many would call hard work. She had always enjoyed average good health, without being at all what one would term robust. Family history good; relatives often attaining the ages of eighty, ninety, and one hundred years.

The menstrual function began at fifteen and ceased at forty-seven; irregular for two years preceding cessation; suffered more or less from leucorrhœa for several years. First noticed abdominal enlargement two years and three months before date, but did not perceive that it began in either ovarian region. Continued steadily to increase in size for fourteen months, with frequent attacks of pain, tenderness on pressure over different parts of the abdomen, and vomiting, followed by general prostration. Had on the whole about fourteen of these severe spells.

She was tapped in June, 1876, and six quarts of a dark-brown, thick, ropy fluid, somewhat resembling molasses, were drawn off. Suffered greatly from prostration after the tapping. No difficulty was experienced at this time in making out the disease, as the substance of the cyst and the character of the fluid made diagnosis easy. After regaining strength she resumed active habits, and continued in tolerable health till the beginning of September, 1876, when increased size and recurrence of painful attacks made it evident that operative measures must soon be resorted to.

After a fair statement of the chances of success attending removal of the tumor, the patient decided on having the operation performed. Meantime a preparatory course of treatment, consisting of tincture of chloride of iron, rest, and attention to the condition of the kidneys and bowels, was instituted. The size of the abdomen exceeded at this time that of a pregnant woman at full term.

A new and sunny house on one of the remote South End squares was selected, free from sewer defects and drain smells, and in a quiet neighborhood. One week before the time appointed for the operation she had a severe attack of pain, tenderness over abdomen, and vomiting, which was undoubtedly peritonitic in character, but from this she recovered rapidly.

September 27th, the room having been heated to 75° F. and thoroughly carbolized, the patient was placed on a Crosby fracture bed, and having been carefully etherized by Dr. W. A. Dunn, the operation was commenced by making an incision four inches in length in the median line, between the umbilicus and symphysis pubis; a large quantity of ascitic fluid, thicker than ordinary, escaped, and the cyst wall, white and glistening, came in view. A sound introduced into the abdominal cavity and swept over the surface of the tumor revealed firm adhesions at various points, which did not break down easily, requiring at last the introduction and careful use of the hand.

An attempt to empty the cyst by Spencer Wells's trocar was, by reason of these very firm adhesions, only partially successful, and a lengthening of the incision was necessary in order to allow of its delivery. It was very firmly adherent at base, and long and careful manipulation was required before the pedicle came to view. The wall of the cyst was quite friable; the contents resembled curdy pus. Great care was necessary to prevent the escape of this fluid into the abdominal cavity. The pedicle was broad and rather short. Spencer Wells's largest-sized clamp was applied, and the tumor was separated. It was estimated to contain between sixteen and twenty pints. The removal of clots and complete arrest of hæmorrhage from the sites of torn adhesions occupied an hour and a quarter, and the entire operation was not completed in less than an hour and forty minutes. The cut surface of

the pedicle was cauterized, and the wound closed by five silver sutures, which included the peritonæum, the pedicle coming out between the last lower suture and the end of incision. The abdomen was then thickly padded with cotton and large bands of adhesive plaster to exercise gentle pressure, with a flannel roller over all. The patient rallied well from the ether, and in the evening felt quite comfortable, suffering only from pain attributed to the clamp.

The after-treatment need not be detailed. The pulse never rose beyond 102, nor the temperature higher than 100°. The urine was drawn regularly every six hours. The diet for the first five days was of the simplest nutritive liquids, such as barley-water, milk, and lime-water, beef juice, with a fair share of brandy and water. On the fifth day the bowels moved spontaneously, and after that progress was rapid. The sutures were removed in twelve days, and at the end of three weeks the clamp separated. In five weeks she was able to sit up, and has been since and is now in better health than for years previous.

Drs. Wheeler, Bixby, Bundy, and Dunn rendered valuable assistance in aid and counsel. Every operator in a case like this will appreciate what it is to have experienced aids about him, ready to anticipate his slightest wish, and without confusion or haste doing the right thing at the proper time.

I believe recovery in this case was materially aided by the persistence in measures completely to arrest bleeding, and the care to remove all clots and liquid blood from the pelvic cavity. In addition carbolic acid was used with great freedom during and after the operation, and the utmost care and cleanliness were observed in every way. A skillful nurse, whose watchfulness and fidelity merit recognition (Mrs. Beckwith, 7 Malden Street), contributed materially to the successful result.

Inversion of the Uterus; Recovery. — Inversion of the uterus is a lesion sufficiently rare to justify the publication of every case, however simple. The grave nature of the injury and the dangers both immediate and remote attending it, the fact that it may occur without attracting the notice of the physician, and that even when attention is called to it there may be failure to recognize its character and take immediate steps for relief, are good reasons why every physician, in obstetric practice at least, should be familiar with its signs and symptoms. That acquaintance with the accident is not general, the number of cases of unreduced inverted uteri related in current obstetric literature makes sufficiently evident. Cases are recorded, varying in duration from a few hours to fifteen years, — Dr. White (Buffalo) relating one which was reduced by him after that lapse of time. Fortunately, however, this is exceptional, and relief is usually sought and obtained within a few weeks or months from the time of the injury.

The difficulty of returning the organ to its normal position is some-

times very great, and we may all draw courage from the fact that the most eminent men in American gynecology have devoted hours at a time, and sometimes performed repeated operations, before finally succeeding.

The methods of reduction usually resorted to may be briefly sketched here. By the first, the patient being etherized and placed upon her back with the legs drawn up, the uterus is grasped by the hand with the fingers extended, and lateral compression is exercised upon the organ, the vagina being first placed upon the stretch. By applying steady and continued pressure the uterus is thus pushed upward and backward, the part last inverted being first reduced. In the second or so-called "dimpling" process, by pressure upon the most dependent part of the fundus, the portion of the uterus first inverted is first pushed up. A third process, which may be termed a modification of the second, is suggested by Dr. Noeggerath, namely, to apply pressure to each corner of the uterus, and so effect reduction in that way. In cases of long standing it may even be necessary to open the abdominal cavity and distend the cervix before replacement is possible. Various modifications of the above measures may be required in special cases, to which no allusion is necessary in a paper of this character. I desire to refer to a most interesting and instructive article on this subject in the *American Journal of Obstetrics*,¹ by Dr. Thomas, of New York, and to the writings of Drs. Emmet, Wooster, and others on the same.

Dr. Thomas's differential diagnosis between complete inversion and fibroid polypi is so clear and conclusive that I take the liberty of quoting it here in full: —

If it be a polypus, —

- (1.) The probe will pass by its side into the uterus.
- (2.) Conjoined manipulation will reveal the uterine body.
- (3.) Rectal touch will reveal the uterus.
- (4.) Recto-vesical exploration will reveal the uterus.
- (5.) The pedicle will usually be small.

If it be inversion, —

- (1.) The probe and finger will be arrested at the neck.
- (2.) Conjoined manipulation will reveal the ring where the body should be.
- (3.) Rectal touch will not discover the uterus.
- (4.) Recto-vesical exploration will not discover the uterus.
- (5.) The pedicle will be large.

The following case illustrates some of the most frequent symptoms resulting from inversion: —

Mrs. H., aged twenty-five, American, in good health until present illness; married three years, and mother of two children. Nursed first child until it was thirteen months old. Second child was born May 7, 1876. Labor of only three hours' duration terminated naturally. During labor she took ergot, and was urged to make undue exertion by the attending physician. The child was very large. Delivery of the pla-

¹ Volume ii., page 423.

centa followed in a few minutes and was not hastened by traction on the cord or by introduction of the hand into the vagina. Is not aware of suffering any severe shock at the time. Continued to feel weak during seven days, and at the end of that time noticed that "her womb came down" while straining at stool, appearing outside of vulva. She "put it back" herself and sent for her physician. He, it appears, did not recognize the nature of the difficulty. She had retention of urine for the week following. Two weeks later the uterus again appeared externally. She remained in bed for two weeks after the birth of her child and was up at the time of the second prolapse. Hæmorrhage constant from the time of delivery until visited by me eleven weeks afterwards, and she had been confined to her bed, except for short intervals, during the whole period. So far, the patient's statement. Her physician considered the case to be one of polypus of unusual character, and postponed operative measures until her health improved.

When first seen she was very much enfeebled by loss of blood, and complained of a feeling of weight and dragging about the back and loins. Vaginal examination revealed a tumor filling the vagina and appearing just inside the vulva, somewhat pyramidal in shape, of firm consistence, white color, and having much the appearance of a fibroid. It did not, however, have the stony hardness of the latter. The finger passed high up could be swept quite around the cul-de-sac, and the diagnosis could be made with tolerable confidence. The rectum was distended by fæces, preventing a complete examination. Next day was appointed for attempting reduction.

An interview with the former physician and some looking up of the subject impaired my confidence in the diagnosis, and began to make me fancy it might be a fibroid polypus. I suppose many of us experience similar doubts in cases where absolute certainty does not exist. Dr. Fitz kindly saw her with me next day, and the rectum having been thoroughly evacuated and a thorough examination made possible, a correct diagnosis was easily made.

The patient was etherized by Dr. W. A. Dunn, and having been placed upon her back the first method was followed. The uterus was grasped firmly by the hand, the vagina put upon the stretch, and steady pressure was made obliquely upwards and backwards in the axis of the pelvis, lateral compression being made at the same time, with the end to reduce first the part of the uterus inverted last. After ten minutes' continuous effort without apparently effecting anything, my hand became fatigued and Dr. Fitz took hold. After the expiration of another ten minutes the organ began to diminish in size and to return to its normal position, so that when I again resumed the completion was a matter of only a few moments. There was none of the snap of spontane-

ous return mentioned in the books in this case ; the fingers were not only obliged to follow the fundus and push it into place, but to remain in utero until the cervix began to contract. External manipulation hastened this, and within half an hour the organ was fairly contracted. There was very slight hæmorrhage during the operation, none of any consequence after. The patient was kept in bed for a week and then allowed to sit up. Nothing important occurred afterward ; there was a lame back and a sense of soreness in the right iliac region, but no pain or leucorrhœa. There also remained for some time more or less vertigo, referable to excessive loss of blood, which time and tonic treatment wholly removed.

CONDITIONS AFFECTING THE FŒTAL PULSE.¹

BY EDWARD DYER PETERS, JR., HARVARD MEDICAL SCHOOL.

THE following thirty cases are taken, by permission, from the records of the Boston Lying-in Hospital.

With the exception of four cases, all the observations were made by myself during a term of service as house physician, and were repeated at various times and under varying conditions, to insure as much accuracy as possible. In spite of these precautions the deductions must be very unreliable, as the fluctuations in the fœtal pulse were found to be very great, even on the same day and as far as possible under similar circumstances.

The following facts were noticed with sufficient constancy to warrant their statement in a general way : —

Contrary to Cazeaux's statement, it was found that the rapidity of the fœtal heart increased in an inverse proportion to its age. After about the eighth month, however, it was found to remain tolerably constant.

Active muscular exercise on the mother's part, such as running upstairs, caused a somewhat irregular fœtal pulse, but did not quicken it. Violent movements on the part of the child itself, produced by sudden cold applied over the region of the uterus, were always followed by a very marked increase in the rapidity of the pulse. Continued dyspnœa on the mother's part caused a quick and irregular fœtal pulse during its existence. As the only cases of dyspnœa which were available occurred in women suffering from bronchial inflammation, it would be difficult to determine whether the accompanying feverish condition were the cause of the quickened fœtal pulse, or whether, according to Engelhorn's theory, the increased amount of carbonic acid in the mother's blood in cases of dyspnœa might affect the vaso-motor centres of the child.

¹ Graduation Thesis, May 14, 1877.

In thirteen cases of labor no increase in the number of heart-beats could be detected during uterine contractions until after the waters had broken, when they became very rapid, feeble, and in some cases inaudible, not resuming their normal rhythm and strength unless the intervals between the pains were unusually long. In two cases this same rapidity and weakness of the fœtal pulse were noticed during the uterine contractions before the waters escaped; in both these cases the amount of the liquor amnii was very small, and the contractions of the uterus were doubtless severely felt by the placenta, as shown by the almost total disappearance of the placental murmur at the same time.

The following table explains itself. The observations were repeated in most cases many times, and some fifteen more cases which might have been added to the list have been excluded on account of great irregularities in the fœtal pulse without apparent cause, an insufficient number of observations, and the fact that many of the women did not enter the hospital until after labor had begun.

Hospital Number.	Fœtal Pulse.	Maternal Pulse.	Weight of Child at Birth.	Sex.	Age of Mother.
1207	135	86	6	B.	22
1209	125	96	$4\frac{1}{4}$	B.	26
1213	137	74	8	G.	32
1200	135	90	8	B.	19
1233	138	78	$7\frac{3}{4}$	G.	22
1240	162	80	$6\frac{1}{2}$	G.	23
1230	174	76	7	G.	25
1242	152	68	$5\frac{3}{4}$	G.	22
1246	138	62	7	G.	24
1231	138	94	$6\frac{1}{4}$	B.	22
1238	133	88	$6\frac{1}{4}$	B.	34
1203	154	74	8	G.	22
1256	154	82	6	G.	25
1253	138	78	$6\frac{1}{2}$	B.	22
1270	134	88	$5\frac{1}{2}$	G.	18
1258	135	76	6	B.	22
1277	138	88	$6\frac{3}{4}$	G.	17
1284	144	82	$6\frac{1}{2}$	B.	17
1182	152	94	7	G.	28
1263	154	74	8	B.	24
1279	126	80	8	B.	27
1266	120	78	6	G.	20
1304	132	84	$6\frac{1}{2}$	B.	25
1301	168	80	8	G.	22
1286	132	76	4	B.	23
1308	120	78	$3\frac{1}{2}$	B.	34
1222	132	86	6	G.	17
1274	148	98	6	G.	26
1311	144	84	6	G.	26
1319	158	68	$6\frac{1}{2}$	B.	18

An analysis of this table gives the following facts:—

Of the thirty births sixteen were girls, fourteen were boys. The average pulse of the girls was $146\frac{1}{2}$; the average pulse of the boys was

136 $\frac{1}{4}$; the average weight of the girls was 6.7 pounds; the average weight of the boys was 6.16 pounds; the average maternal pulse-rate for the girls was 80.6: the average maternal pulse-rate for the boys was 82.1.

In extra-uterine life it is an established fact that the frequency of the pulse diminishes as the weight of the animal increases. The following table is from Ranke's *Grundzüge der Physiologie*:—

	Weight in Grammes.	Pulse-Rate.
Squirrel	222	320
Cat	1312	240
Rabbit	1434	220
Dog	9400	96
Horse	380,000	55

In comparing the intra-uterine pulse-rate of large and small children we obtain the following figures:—

Average weight of eight largest girls, 7.4 pounds; average pulse-rate of eight largest girls, 150; average weight of eight smallest girls, 6 pounds; average pulse-rate of eight smallest girls, 143; average weight of seven largest boys, 7.1 pounds; average pulse-rate of seven largest boys, 143; average weight of seven smallest boys, 5.2 pounds; average pulse-rate of seven smallest boys, 131.

It is interesting to notice that these figures, although based on too few cases to have much value, give results directly opposite to the law stated above as holding good in extra-uterine life. Both the largest girls and the largest boys had a considerably higher average pulse than the smallest ones.

The three smallest children were boys, weighing respectively four and a quarter, four, and three and a half pounds, and having a pulse-rate of 125, 132, and 120, this being considerably below the normal pulse-rate of average-sized children.

It will be seen that these figures are confusing, and that although, in the main, the fœtal pulse of girls is higher than that of boys by some ten or twelve beats per minute, still any attempt to use this method for the determination of sex before birth must be very uncertain.

Dr. Engelhorn, of Leipzig, in the *Archiv für Gynæcologie*, band ix., heft 3, records careful observations of some forty cases with results not very different from those stated here. He succeeds somewhat better in establishing an apparent ratio between the size of the fœtus and the rapidity of its heart-beats.

The inference to be drawn from these few observations seems to be, that although a rapid pulse-rate indicates a female child, and *vice versa*, still there are so many other factors impossible to determine, which have so much greater influence on the pulse-rate than the sex has, that the diagnosis of sex by this method has little practical value.

There is little difficulty as a rule in detecting the heart-sounds. Forty-

two cases were examined successively, and in thirty-nine the fetal heart could be counted. Of the three remaining cases one was a breech, one was still-born, and the ill-success in the third case may fairly be attributed to the inexperience of the examiner.

RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.¹

BY S. HOWE, M. D.

GYNÆCOLOGY.

Treatment of Lacerations of the Cervix Uteri. — Dr. T. A. Emmet² explains why the operation for laceration of the cervix, which he two years before described, has in many cases been unsuccessful by saying that the patients were not in a fit condition, and goes on to point out what these conditions should be, and also in what sort of cases the operation should be performed.

The conditions which are unfavorable for the operation, and which must be overcome before the operation, are as follows: A cystic condition of the cervical follicles, which causes the lips of the cervix to be rolled out, and even in some extreme cases a strangulated condition of the neck of the uterus; peritonitis, or parametritis pelvica; changes in the position of the uterus in the pelvic cavity; cicatricial tissue in the angle of the laceration; strangulated condition of the cervix due to the formation of cicatricial tissue at the base of the cervix between a double laceration; and, finally, congestion of the uterus from any cause.

In cystic condition of the cervical follicle the mucous membrane is rolled out as far as the os internum. The superficial layer of the mucous membrane feels rough and uneven, as if there were shot under it. The treatment of this condition is to puncture each cyst and enlarged follicle with a knife, and to paint the whole cervix with concentrated tincture of iodine.

Peritonitis or parametritis very often follows the lesions caused by childbirth, and frequently occurs also after any operation that is undertaken before the sensibility of the uterus is entirely gone. The common treatment of inflammation of the cellular tissue of the pelvis consists in counter-irritation of the abdominal walls just above the pubes with vesicants, croton-oil, tincture of iodine, etc., and vaginal injections of hot water from one hundred to one hundred and ten degrees, morning and evening. Sometimes one of the broad ligaments is thickened and shortened by inflammation, and if the patient stands erect the enlarged uterus stretches the inflamed ligament, and causes pain and increase of the exudation. In such cases a light pessary is indicated, which will

¹ Concluded from page 192.

² American Practitioner, January, 1877.

raise and hold up the uterus and prevent this irritation. If, however, the pessary lift up the uterus too high it will do more harm than good. The feelings of the patient are the only guide as to whether it is right or not.

Where there are changes in the position of the organ, a course of treatment with a pessary must be gone through with before the operation can be performed. The cicatricial tissue in the angle of the laceration must be very carefully removed by an operation, and the congestion of the uterus is best relieved by long-continued injections of hot water, and by keeping the uterus in place and well supported where there is any tendency to prolapse. If these various kinds of treatment are carried out, — and they may require three or more months, — then the operation, if carefully performed, will almost always be successful.

The operation, both in its nature and performance, is very simple. It is made easier by drawing down the uterus with a hook. The operator refreshes the edges of the laceration, beginning with the deep parts first. The patient lies either on her left side or on her back. The operation is best performed with scissors, the part to be excised being seized with a pair of forceps, and cut away with the scissors. The edges of the wound should be as straight and even as possible. If the tissue is thick, a short, strong, lance-pointed needle is best for sewing the edges together; if thin and vascular, a small, round needle. The external and vaginal edges should be brought exactly together. After eight or more days the sutures can be removed, but very great care must be exercised in doing this, so as not to separate the freshly united wound. Great care should be used in diagnosing this lesion, and not mistaking ulceration of the cervix for it, as has often been done.

The lesion occurs in about 5.9 per cent. of all gynaecological cases.

Ovariectomy. — T. Spencer Wells¹ read before the Medical and Surgical Society of London an account of his last three hundred cases of ovariectomy, making in all eight hundred. In the sixth hundred set he lost twenty-eight per cent.; in the seventh and eighth sets, twenty-four per cent. In the last three hundred he had operated on many unfavorable cases, which had made the percentage higher. In only eight of the three hundred had he used the drainage tube, and in eleven other cases, after the operation, he had made an opening either in the abdominal walls or in the vagina, to let out the fluid which had collected. Spencer Wells used a drainage tube only when he suspected that there would be a collection of fluid in the abdominal cavity after the operation. He thought that a drainage tube could cause a formation of fluid, or would often increase the amount of fluid already there. A collection of fluid after an operation would sometimes form a swelling between the uterus and rectum; if such occurred, it could

¹ British Medical Journal, March, 1877

easily be emptied by a trocar. He said that in his ninth hundred set, which he had just begun, he had operated twenty-seven times, and all these cases had done well.

A Case of Ruptured Ovarian Cyst. — Thomas Keith¹ reports a case in order to show that even where the conditions appear very bad and hopeless, the case may do well. Such are cases of inflammation of the cyst, with the formation of pus, or those in which typhoidal symptoms occur after puncture of the cyst.

The patient was a married English woman who had suffered from a very rapidly forming cyst. The abdomen was forty-three inches in circumference. The tumor felt like a soft solid, with partial fluctuation in places. The abdominal walls were very tense. On the morning which had been appointed for the operation it was discovered that the cyst had burst. A thick, dark fluid was drawn off by the aspirator. The operation was postponed, the operator knowing that when blood which is not fresh has entered the peritoneal cavity a septic peritonitis is very apt to be set up. The condition of the patient in the next thirty hours rapidly grew worse; the temperature rose to about 105° F., pulse 130. Vomiting and pain were present; the urine became albuminous, the tongue dry and black, as were the lips. General condition very bad. This state of things lasted ten days, the temperature varying between 103° and 105°. As destruction of the cyst was going on, and also an unusual development of gas, on September 16, 1876, although the condition of the patient seemed hopeless, the operation was performed.

The patient had at that time jaundice and phlegmasia dolens; the urine was very scanty and highly albuminous. The cyst was found to be strongly adherent to the omentum, intestines, and pelvic cellular tissue. It was in a gangrenous condition, and its contents were very foetid. The intestines in the cavity of the pelvis, the uterus, and rectum were imbedded in putrid lymph. The operation lasted an hour and a half. The abdominal cavity was very carefully washed out with a solution of carbolic acid, and the wound closed with silver sutures. A drainage tube was fastened above the clamp. The cyst and its contents weighed twenty-five pounds. Vomiting lasted until the 18th of September, when the temperature fell to about 100°, and the patient felt very much better. This state of things lasted about a week, when she had a slight relapse, with return of the vomiting; after this the case improved slowly, and on the 8th of January the patient was discharged, well.

Dr. Keith has operated in fourteen similar cases, and has lost two only, twelve having recovered. He thinks that if such cases get well, the results of ordinary operations should be very much better. The

¹ *Lancet*, March, 1877.

mortality in Dr. Keith's practice is smaller and smaller each year. In one hundred and seven he has lost ten patients only.

Removal of the Ovaries in a Case of Fibro-Myoma of the Uterus. — Dr. Hegar¹ gives an account of the removal of the ovaries in two cases, for fibro-myoma of the uterus, and his reasons for the operation. They are as follows: —

(1.) The operation was performed on account of persistent hæmorrhages, which were threatening the lives of the patients, and when all other remedies had been thoroughly tried without any result; the remedies were ergotine, which was injected into the abdominal walls for a considerable time, vaginal and intra-uterine injections of astringents, and styptics. Both patients were very much reduced by the loss of blood, pain, and discharge from the vagina.

(2.) One of the patients had been sent to him by another physician who recommended removal of the uterus. Dr. Hegar, knowing how fatal such an operation was, and what a small percentage of those operated on recovered (although it was a well-recognized operation, and had been performed by many of the best gynæcological operators), desired to try some other less dangerous mode of treatment, and decided to remove the ovaries. He thought that the operation had never been attempted, for he had not at that time heard of Dr. Trenholme's (Montreal) case. The operation was performed, and a perfect cessation of the hæmorrhage and pain followed. In one case, however, the recovery was tedious, owing to some abscesses which occurred in the pelvic cellular tissue, and which were released by puncture through the rectum. Over nine months has elapsed since the first operation, and there has been no return of the symptoms or of the mucus, the patients enjoying good health.

Dr. Hegar goes on to state that this is the first case of extirpation of the healthy ovaries which has ever been performed in Europe, with the exception of the case of Köberle,² who removed one of the ovaries (the left) from a patient who suffered from retroversion of the uterus. The abdominal cavity was opened, and the left broad ligament was found adherent to the wall of the pelvis, holding the uterus in a retroverted condition; the left ovary was bound down with the ligament, and in removing one it became necessary to remove the other also. The patient had suffered from long-continued constipation, which medicine would not relieve. After the operation the rectum was thoroughly emptied, being packed with hardened fæces. The patient did well.

*Remedy for the Pain in Carcinoma of the Cervix Uteri.*³ — In many

¹ Centralblatt für Gynækologie, No. 5.

² Centralblatt für Gynækologie, No. 2.

³ Aust-Lawrence, Medical Times and Gazette, page 310, 1877.

cases the following method of treatment has proved very beneficial for the excessive pain in cancer of the uterus, vagina, and rectum. In cases of medullary carcinoma and progressive epithelioma of the uterus, powdered ergot in doses of thirty grains every six hours has proved very beneficial against the terrible pain, for, as a rule, when there is an increase in the amount of blood flowing from the diseased tissue, the pain is much diminished, but in patients who are very much reduced already by the loss of blood, this treatment cannot be carried out.

Another excellent remedy, he goes on to say, is croton chloral hydrate. This diminishes the pain, not in the cancer but the reflex pain in the back, thighs, and vulva. As local treatment, he advises placing little pieces of cotton-wool, soaked in strong carbolic acid, about the cervix and diseased tissue; this should be done through a speculum; then to syringe out the vagina, morning and evening, with a solution of what is called glycerine carbolic acid, thirty grains in a pint of water.

Fibro-Myoma Vaginæ. — Neugebauer¹ gives a case of vaginal fibro-myoma: A woman, forty-one years old, who had had nine children, noticed soon after the birth of her first child, at the lower portion of the anterior vagina, a small, hard, painless swelling. This gradually grew and protruded from the vulva. The tumor was about four centimetres in circumference, and was covered with a smooth red mucous membrane, except at the top, where there was a small ulceration. With the patient in the lithotomy position, the tumor was removed by a galvano-cautery wire. The bleeding was very free and was stopped with difficulty. A few weeks afterward there was a recurrence of the tumor, which measured five by four centimetres; this was removed by the *écraseur*. Again there was considerable hæmorrhage. The urethra was protected by a catheter. The treatment was radical, there being no return of the tumor. Both tumors were fibro-myomata.

Dr. Neugebauer has collected thirty-four cases of fibro-myoma of the vagina from different medical works, and has come to the following conclusions: —

- (1.) Solid tumors of the vagina not carcinomatous are rare.
- (2.) These are generally either fibroids or fibro-myomas, and very rarely pure sarcomas.
- (3.) Their situation may be anywhere in the vagina. The development of the tumor is not in any way connected with the age of the patient.
- (4.) The tumor usually grows slowly, but it can be very large and weigh even ten pounds.
- (5.) They generally cause no inconvenience, but may be so large as to prevent childbirth.

¹ Prager Vierteljahrsschrift, Band 134.

(6.) The operation for their removal depends on what sort of a base they have. Severe hæmorrhage can very easily occur. The result is in most cases favorable.

PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

A. P. RICHARDSON, M. D., WALPOLE, N. H., CORRESPONDING SECRETARY.

THIS association was organized July 15, 1859. It has a long name and represents a long tract of territory on both sides of the Connecticut River. It includes in New Hampshire the towns of Hanover, Claremont, and Keene; in Vermont, Brattleborough, Bellows Falls, and White River Junction, with the smaller intervening towns in both States. It also extends along the valley into Massachusetts. It has adopted a code of ethics similar to that of the state medical societies of New Hampshire and Vermont. The usual attendance is twenty-five or thirty members, which is less than half the whole number belonging to the association. The usual place of meeting is Bellows Falls, Vt. There are three meetings a year: in May (annual), July, and October.

This association has adopted a charter granted by the New Hampshire legislature in 1876. It is also chartered under the general statutes of Vermont. Its last annual meeting was held May 2, 1877, Dr. FROST, of Hanover, in the chair.

Coxo-Femoral Dislocation. — DR. WHITMAN, of Bellows Falls, reported a case of dislocation on the dorsum ilii, in which anæsthesia caused no relaxation of the muscles. At a second etherization, some hours after, there was perfect relaxation, and the reduction was effected by extension with little trouble, and the patient left in bed. On the following day, with very slight movement of the patient, the dislocation was suddenly reproduced. A third etherization and a second reduction was accomplished, and a weight with a pulley was attached to the foot, after which the patient did well.

DR. ALLEN, of White River Junction, then presented what he called a "new method" of reducing dislocations of the hip, which he has employed in several cases with ease and success. It consists of placing the patient under anæsthesia, upon his back, flexing the thigh at a right angle with the body, and the leg at a right angle with the thigh; then, standing astride the leg, the surgeon clasps his hands under the angle at the knee and raises the hips from the floor, in which position he remains for a few seconds, when the reduction occurs with the usual "snap" as the bone enters its place. The clasped hands of the surgeon become the fixed point, the counter-extension, while the weight of the body draws the socket down and over the head of the femur. This method, he believes, will prove successful in all varieties of dislocations of the hip, though a little manipulation may first be necessary in the other forms of dislocation than that upon the dorsum ilii.

Tumor of the Stomach. — DR. PHELPS, of Windsor, Vt., reported a case, and showed a specimen of tumor of stomach, the size of a walnut, extending through the walls of the stomach, and appearing equally on external and internal surfaces. It had the appearance of being carcinoma. The tumor was

being hardened for microscopic examination. The patient, a man, was sick a year, with pain simulating intercostal neuralgia. Vomiting was a constant symptom.

DR. GOODWILLIE, of Vernon, Vt., was invited to repeat his address of a previous meeting on Reform in the Medical Profession.

DR. LOVELAND, of Westmoreland, N. H., reported a case of hydrophobia which occurred at the Cheshire County Almshouse last April. The patient was of Irish descent, a railroad hand, forty-three years old. He was of medium size, with a well-developed muscular system, and a constitution apparently free from disease. He was bitten in January last by a dog. The first symptoms showed themselves on April 6th, when the patient complained of feeling unwell; was uneasy, anxious, and irritable. Some rheumatic pains were felt, commencing at the wounds and extending along the course of the nerves. Dr. Loveland found him suffering from spasmodic pain beginning at the epigastrium and involving the larynx and pharynx, producing a sense of suffocation. When offered fluids the patient would express aversion to them, and the mention or sight of them would frequently produce a paroxysm. Fluids in small quantities could with difficulty be taken. He would fill his mouth with the fluid, forcibly grasping whatever was nearest him. The patient would remain in a rigid, cataleptic position, with head slightly thrown backwards and livid cheeks, till the act of swallowing took place. This was usually performed in a few seconds. Accompanying this were convulsive fits and a noise like that produced by the passage of air subjected to great pressure through a narrow aperture.

The respiration was labored. Short inspiration was succeeded by long, and at times violent expiration. Conversation was often interrupted by the difficulty in breathing. Sometimes the voice was of a sighing character.

These symptoms continued increasing in severity, and the patient died at two A. M., April 9th. There was, towards the last, some delirium. The treatment consisted of, in addition to as careful nourishment as the case allowed, the administration of narcotics.

DR. ALLEN presented a specimen of diseased knee-joint of several years' standing, for which amputation of the thigh was performed a few days before.

Delegates were chosen for the several state and other medical societies near us, and for the American Medical Association.

JULY 11, 1877. A paper was read by the secretary from Dr. Downing, on Cholera Infantum, which formed the chief topic for discussion during the forenoon.

In the afternoon a paper was presented on Vaginal Thrombus, by DR. GRAY, of Brattleborough.

Femoral Aneurism. — DR. A. B. CROSBY related a case of femoral aneurism treated and cured by a method original in its plan, which consists of a shot-bag in the form of an inverted, truncated cone, suspended by an elastic cord over the patient, so as to produce a constant pressure over the aneurism. He gives to this method the name "elastic digital compression."

HEALTH OF TOWNS.¹

SPECIAL report number seven is devoted to the subject of Health of Towns, and contains, besides several special papers, the answers from correspondents in the various towns, chiefly upon the subject of diphtheria.

Among the special papers, that of Dr. Pinkham, of Lynn, is by far the most thorough, and though his conclusions as to certain things, such as contagion, causation, etc., may be thought to be based on a comparatively small number of cases, yet the method in which he has conducted his investigation, and the hard work done by Dr. W. S. Clarke in inspecting all the surroundings of the cases, certainly entitle his opinions to great consideration.

Dr. Pinkham evidently regards diphtheria as contagious, while Dr. Johnson, who reports five hundred and four cases from Salem, appears not to give his full assent to this theory.

All the special papers are accompanied by tabulated statistics showing more or less thorough inquiry on the part of the authors, yet leaving it to be regretted that every condition, natural or artificial, which might be supposed to have a bearing on the question had not been recorded.

The answers from correspondents are more or less complete on many points, yet there is scarcely one which bears internal evidence that the writer had gone to the bottom of things in the course of his investigation. "Places seemed healthy," "houses were apparently well situated," "drainage was average." Such reports are not of much value, except in a general way, and the real bearing of hypothetical causes cannot be estimated until all the facts are known. It is to be hoped that correspondents will give much fuller reports, even if they should be of a smaller number of cases, next year.

An interesting paper by Dr. C. L. Hurlburt, of South Dennis, treats of an epidemic of typhoid fever in that town, and is well worth reading on account of some curious conditions affecting the people of the locality.

The tabulated account of the mortality of various cities and towns is not very flattering to Boston. There are very few towns in the State having as high a death-rate, and of the large cities through the United States Boston maintains an unenviable lead of all except New York and the notoriously unhealthy cities of the Southern States. The reason for this high rate of mortality is not hard to find in a wholly insufficient and inefficient system of sewerage, and unless the authorities take hold of the matter at once and in earnest, by some other way than rejecting the suggestions of experts on the subject, even New Orleans and Charleston will cease to contest the head of the list with Boston.

Special report number three is a very well-written and exceedingly able paper by Dr. J. G. Pinkham, on the Sanitary Condition of Lynn. The conditions of medical practice in this country are such that the important branch of the science which is concerned in the investigation of the causes of those diseases which are now recognized as preventable has not until very recently, and in comparatively few of our cities and towns, made any considerable progress. The American physician, even if by fortunate circumstances removed from the

¹ Eighth Annual Report of the State Board of Health.

actual necessity of "bread-winning," is in the great majority of cases so soon in the midst of a busy practice that, even if the proper training and inclination are present, he is left no time by the pressing demands of the cases under his management for the careful examination of the sanitary conditions under which his own patients or the rest of the community live. The necessity of *cure* gives no opportunity to prepare the conditions of *prevention*. Moreover, the carelessness and indifference of the public authorities, who seem almost more willing to throw obstacles in the way of those laboring to procure for their fellow citizens immunity from disease than ready to help them pecuniarily and otherwise, till their neglect seems almost willful blindness or obstinacy, have afforded little encouragement to the active sanitarian. Even in Boston, where there is a pretty general enlightenment of the people and the authorities in regard to matters pertaining to general health, and where sanitary science has made great progress, there is a neglect in the matter of sewerage which is costing hundreds of lives every year, and which will cost an increasing number every year until a better system of drainage is completed. Public parks are very useful and desirable; even free ferries may be of advantage to the whole city; but it does seem a very short-sighted policy to provide a place where people may go once in a week or so to breath pure air, and at the same time keep the air in which these same people must live seven eighths of the time continually poisoned by the exhalations from defective sewers and the accumulation of filth from insufficient drainage. If any one is surprised at the condition of affairs in Lynn, as shown by Dr. Pinkham's report, let him remember that Boston, excepting in a few of the particulars, is practically as badly off as Lynn, and that immediate and thorough work is necessary if the death-rate is to be kept anywhere within reasonable bounds.

Another obstacle to the progress of sanitary science has been a lack of careful observations and accurate statistics from which to draw proper deductions as to cause and effect in disease. Observations made with the best intentions, and made by medical men with the cause thoroughly at heart, have fallen short of their object, because the observers have started with a preconceived theory, and have made the facts conform to their theory by that insensible warping which seems in many cases almost unavoidable; and again, not all the conditions, natural and artificial, but only a portion of them are recorded, and it is plain that any conclusions from such data must be erroneous just in proportion to the inaccuracy or incompleteness of the record.

In view of these facts, therefore, it is a matter of especial congratulation that the State Board of Health has been able to present to the citizens of the commonwealth a report bearing such unmistakable internal evidence of honest hard work in sanitary investigation, of patient and thorough inquiry into all the causes which may in any way affect the health of the people of Lynn, as that which Dr. Pinkham has prepared. It is apparently so accurate and made with such attention to detail as to furnish, as it were, a photograph — not a very agreeable one, it is true — of the sanitary condition of one of our most thriving cities. The value of this paper is not alone to be estimated by the effect it has in awakening the people of Lynn and their authorities to a sense of their danger and their responsibilities, but also by the further effect it has in caus-

ing citizens of other towns to regard this city as but a type of their own, and to arouse them to the performance of necessary sanitary duties.

As a sanitary study and a model of the proper way to conduct such investigations, Dr. Pinkham's paper is admirable. It neglects no point, in either the natural or artificial conditions affecting the health of the community, and institutes careful comparisons between the different localities of the town, both as to sanitary defects and the relative mortality; and by a careful examination of the statistical tables contained in the report the importance of noting every factor which goes to make up the amount of disease is demonstrated. For instance, take Franklin Street, where there is good sewerage, no overcrowding of the population, five sixths of which are intelligent natives, a street with an elevation of thirty feet above the sea, facts all indicating a good hygienic condition, yet the death-rate is 27.8. Cottage Street, on the other hand, has no sewer, three fourths of the population are foreigners, there is an elevation of only ten feet, and yet the death-rate is only 15.5. The explanation is seen when another factor is considered, namely, the natural drainage. In Cottage Street it is mostly good, while in Franklin Street there is a defective water table four feet from the surface in the summer.

The report is divided into seven sections, each of which is devoted to the consideration of the different conditions affecting health, or the recording and discussion of the actual death-rates and their causes, and the immediate needs of the city in sanitary matters.

The topography of Lynn, both as regards the actual elevations and water surface to be seen with the eye, and the unseen hills and valleys in the sub-soil which make the under-ground reservoirs of moisture, is carefully described, and an elaborate map still further illustrates this point as well as other matters treated of in the report. The influence of climate and meteorological conditions receive due attention, as do also the constitution of the population as to nationality, sex, occupation, intelligence, wealth, and pauperism.

In considering the artificial conditions affecting health, Dr. Pinkham and his assistant, Dr. Clarke, reveal a sorry state of things. Contaminated wells, impure water, insufficient sewerage with defective outlet, bad house drainage, neglected under-drainage, accumulated night-soil, uncollected or improperly collected garbage, multiplicity of piggeries, defective dwellings and factories, are subjects fully considered. A page is devoted to the question of intemperance and immorality.

There is a careful analysis and discussion of the mortality records, and the author has made the proper allowance for the probable inaccuracy or incompleteness of the statistics.

It is shown that 26.4 per cent. of the prevailing diseases are zymotic, and it is a little remarkable that under the condition of things disclosed in the report the proportion is not greater. In concluding the report, Dr. Pinkham states briefly what are conceived to be the most pressing sanitary needs of the city so far as they come within the province of public hygiene. They are: (1) More attention to soil drainage; (2) an improvement in the public water supply; (3) a better system of sewerage; (4) an improved method of disposing of night-soil and the contents of cess-pools; (5) a better system of re-

moving garbage ; (6) more attention to the subject of ventilation ; (7) a more effectual plan for limiting the spread of certain zymotic diseases ; and lastly, by far the most urgent, the establishment of an independent board of health.

It is most certainly to be hoped that the suggestions in this report may be acted on, and the arduous labor of Dr. Pinkham be in this way in some measure repaid.

ANNUAL MEDICAL ANNOUNCEMENTS.

WE have received a number of catalogues annually circulated at this season of the year by the faculties of various medical schools, and have examined them with some interest to discover what improvements, if any, have been made upon the old methods of instruction. A glance at the New York city schools shows an unswerving adherence to the old plan, if we may except the Woman's Medical College, where a modified "graded system" is optional, and the session extends from October to May. The Michigan University is apparently endeavoring to regain the caste from which it has fallen in its recent affiliation with the homœopaths by one or two changes which are undoubtedly progressive. Instruction will be given during nine months of the year ; a graded system is provided for those who wish it ; but no examinations are held until the end of the second year, and it does not appear that they are all to be in writing. We believe this was one of the first schools in the country to institute an examination for entrance. We may add that the university gives a separate course of instruction for women. The Miami Medical College of Cincinnati has also a similar optional course. The Syracuse University of New York has, to its honor be it said, adopted the graded system in all its details as part and parcel of its required course, and the University of Pennsylvania has made a long step in advance, adopting also the graded course, but it has not yet succeeded in giving its annual term of study the requisite length. The faculty has, however, among its members some of the most progressive spirits of the day, and we have no fear but that this school will always be found amongst those which maintain a high standard of education.

The short term of study has been one of the great evils of the old system. It permits of freaks in the division of time which no other branch of education has attempted. We hear of fall terms beginning the first of August, summer terms in February, and even of two years being crowded into one.

Many of the circulars we have received contain the "articles of confederation" of the "Association of American Medical Colleges" (high-sounding phrases, but alas ! a cloak under which to hide the patches of a worn-out clothing), which organization was formed in Chicago at the time of the meeting of the American Medical Association this spring. The code appears intended to suppress the many irregularities which the old system makes possible. The association includes many prominent schools, and its existence seems to us evidence that adherents to the old plan feel the necessity of banding themselves together for mutual support. The desertion of the more progressive element makes them more sensitive to being classified with schools which have made the system notorious. We see but little benefit to be gained by such a

body. The future of medical education must be left to the enterprise of each individual school, which will not fail to respond to slow but surely increasing demand for a higher standard of education.

MEDICAL NOTES.

— The following is an extract from a series of resolutions adopted by the Manufacturing Chemists' Association of the United States, at their meeting, held in Baltimore, June 6, 1877: "That the position be taken that manufacturing chemists, as producers, having a large amount of capital invested, employing large numbers of working people, paying the same rate of wages, the same rates of interest for the use of money, doing business under the same expenses generally, as other manufacturers; as taxpayers, more heavily burdened than most of their fellow-manufacturers, paying annually into the United States treasury hundreds of thousands of dollars through the tax on distilled spirits alone; and as good citizens, have at least as strong claims upon the government and the people as any other class of manufacturers, and hence that they have an absolute right to demand that any general policy of the government, whatever it may be, shall be made to apply to them, as to all others."

— The fifth session of the International Congress of Medical Science will be held at Geneva from the 9th to the 15th September.

It embraces all the departments of medicine, and the following subjects have been announced in addition to those printed in the JOURNAL of June 7.

Section I., Medicine. President, Dr. Ströehlin; vice-presidents, Drs. Ducellier, Duval, and Revilliod; secretaries, MM. Saloz and Vincent. (1.) The ætiology of typhoid fever, Dr. Bouchard. (2.) Résumé of observations and works of simple chronic ulcer of the stomach, Dr. Lebert. (3.) Diphtheria, croup, tracheotomy, Dr. Revilliod. (4.) Universal pharmacopœia, Professor Gille, Brussels. Communications announced: (1.) Parasitic affections of the skin, Dr. Hardy. (2.) Inoculability of various skin affections (ecthyma, impetigo, herpes, epidemic pemphigus of the newly-born), Dr. Vidal. (3.) Diagnosis of meningitis by the ophthalmoscope, Dr. Bouchut.

Section II., Surgery. President, Dr. Mayor; vice-presidents, Drs. Juillard, Las Kowstri, and Speiss; secretaries, Drs. Hilt and Martin. (1.) On artificial ischemia, Dr. Esmarch, of Kiel. (2.) The influence of traumatism on pregnancy, and *vice versa*, Dr. Verneuil. (3.) Treatment of ozæna, Dr. Rouge, Lausanne. (4.) Galvano-cautery, Dr. Juillard, Geneva. Communications announced: (1.) The definite results of articular resections, Dr. Ollier, Lyons. (2.) Penian fistula, Dr. Reverdin, Geneva.

Section III., Midwifery. President, Dr. Gautier; vice-presidents, Drs. Badan, Long, and Odier; secretaries, Drs. E. Chenevière and Pilicier. (1.) On the artificial alimentation of children, Dr. Zweifel, Erlangen. (2.) The employment of anæsthetics during natural labor, Dr. Piachaud, Geneva. (3.) On membranous dysmenorrhœa, Dr. Gautier. Communications announced: (1.) Uterine souffle, Dr. Rapin, Lausanne. (2.) On the law regulating the growth of children, Dr. Odier, Geneva.

Section IV., Public Medicine. President, Dr. H. Cl. Lombard; vice-presidents, Drs. Bient, Dunant, Odier; secretaries, Drs. Lombard and Pétavel. (1.) The influence of alcoholism on mental affections, Dr. Magnan. (2.) Medical geography; on malaria in Europe and Northern America, Dr. H. Cl. Lombard. (3.) On the influence on towns by the emigration of the inhabitants of villages, Dr. Dunant. (4.) Tuberculosis treated on the mountains and on the Mediterranean coast, Dr. Thaon, Nice. Communications announced: (1.) The influence of the adulteration of alcoholic drinks on the health of the manufacturer and consumer, Dr. Guillaume, Neuchâtel. (2.) How epidemics arise and end, Professor Diday, Lyons. (3.) On the value of hydropathy in the nervous state and anæmia, Dr. Glatz, Geneva.

Section V., Biology. President, Dr. Schiff; vice-presidents, Drs. H. Fol, Rapin, Vulliet; secretaries, MM. Vogt, Darier, Wartmann. (1.) The physical characters of the electric discharge of the torpille, its physiological analogy with muscular contraction, Dr. Marey. (2.) Cerebral localization, Dr. Broadbent, London. (3.) On the cause of sleep, Dr. W. Preyer, Jena. (4.) The functions of the spleen, Dr. Schiff. (5.) Histology of the ova and the rôle of the zoöspERM in fecundation, Dr. H. Fol. (6.) Physiological antagonism, Dr. Prevost. Communications announced: (1.) Entozoa in man, Dr. Vogt. (2.) On the tissues in the organism, Dr. Yalsy. (3.) Case of anomaly in the conformation of the hand, Dr. Bouchut.

Section VI., Ophthalmology, Otology, etc. President, Dr. Warlomont; vice-presidents, Drs. Barde and Haltenhoff; secretaries, Drs. Ferrière, Ravenel, and Kohler. (1.) Indications for the enucleation of the globe of the eye in its relation with sympathetic ophthalmia, Dr. Warlomont. (2.) The ætiology and prophylaxis of myopia, Dr. Haltenhoff. (3.) Tenotomy of the tensor tympani, Dr. Colladon, Geneva.

— The next general meeting of the American Social Science Association will be held at Saratoga, commencing September 4th, and remaining in session through the week. It is proposed that all the members shall convene in one place, the United States Hotel, special arrangements having been made for their accommodation there. In addition to a programme of papers and discussions of more than usual interest, it is further proposed at this meeting to carry out more fully than ever before the leading object of the organization, namely, "*association*," by bringing together at one time, and especially at one place of temporary residence, as large an assemblage of individuals as is possible from all sections of the country who are specially interested in some department of social or economic science.

— Upon the recommendation of the medical faculty, Dr. E. S. Peck (who is now pursuing his medical studies with high enthusiasm and success in Europe) was elected to the special professorship of diseases of the eye and ear in the medical department of the University of Vermont by the trustees at their late meeting. Dr. Peck has contributed to the JOURNAL a number of interesting letters from different European cities during his residence abroad.

LETTER FROM PHILADELPHIA.

Messrs Editors, — With the exception of a few of the blistering days for which Philadelphia is notorious at this season, we have thus far enjoyed remarkably cool weather, — weather which permits one to sleep at night without the companionship of an involuntary steam-bath. As a consequence the city has been blessed with good health. Statistics show a decreasing death-rate from week to week. The Board of Health is very active at this season. The usual issue of instructions to the people bears, this summer, most strongly upon cleanliness of person, house, and surroundings. Philadelphia has an exceptional geographical situation. She lies between two flowing rivers, and at her doors has the noble Park of thirty-five hundred acres. The Park is the breathing-place of the city. Old and young, rich and poor, make such use of its pure air and the grateful shade of its one hundred thousand trees that it is no infrequent thing to hear that over one hundred thousand persons have gone to the Park in one day. Words are needless as to the beneficial effects of such a breathing-place. Besides this huge oxygenator, Philadelphia possesses many supplementary lungs in the beautiful wooded squares which exist all over the city. Moreover, spite of the absurd sensational reports of last summer to the contrary, the drinking-water of the city, as shown by constant analysis, is unusually pure and wholesome. At the present time the city is not only free from all epidemics, but the diseases which are peculiar to the season seem this year to be at a minimum.

Many of our physicians are out of the city, some of them for a vacation of several weeks. Those who remain have little else to do than amuse each other. Their dissipation consists in congregating in the office of one or the other and gossiping over their cigars until long after midnight, for, the wives being absent, family discipline is simply *nil*. To accomplish work of any sort at this season, either with pen or book, is, in Philadelphia at least, almost physically impossible.

I regret that I cannot give you details of the recent meeting of the State Medical Society of Pennsylvania. The occasion brought together a larger number of physicians than has been the case under the auspices of this society for several years, excepting, of course, the meeting of 1876 in Philadelphia. But it can be said that the society has at no previous meeting listened to the reading of so many papers as were presented this year. Discussions, too, were interesting and lively. Concerning the admission to the society of women as delegates, it was resolved that if individual city and county societies choose to receive medical women as members, then the state society would accept such women as delegates. The matter was then relegated to the various societies. It has been alleged by those who were in error that intoxicating liquors were freely used at the banquets. I have the authority of a delegate for stating that no liquors whatever were served or called for at the banquet or other entertainment. The former was given at a hotel, and my informant thinks the reports to which I have alluded arose entirely from the fact that certain delegates did drink at the bar of the hotel. Much as this is to be regretted, it did not receive the countenance of the society, and no intoxication

of any degree was seen. The society will hold its next annual meeting in Pittsburg under the presidency of Dr. D. Hayes Agnew, of this city.

Mention of Pittsburg brings to mind the recent terrible riots in that city and the incipient riots in Philadelphia. We have just completed a week which revived memories of our civil war. The steady tramp of armed men by day and night, the dull rumble of artillery, solitary soldiers hurrying here and there, the midnight cry of the newsboys, the general anxiety for the safety of the city, were all thrillingly familiar; indeed, painfully so. There were, too, the medical interests of the excitement,—surgeons suddenly donning uniforms to go to “the front,” young medical men volunteering their services and anxious to be accepted in hope of becoming better known; the hurrying hither and yon for necessary surgical appliances, which late at night could be obtained only from hospitals or by private loan. The danger is over. This city was saved by the bravery of her police under the splendid and decisive management of Mayor Stokely. Government troops backed by artillery came in abundance, but only when the police had obtained the upper hand.

I have recently been reminded of the infamous creature who kept a baby-farming establishment in Boston some years ago. A similar creature and establishment were unearthed in this city within a few weeks, and more recently a second. Both women are now in jail, and the murderous traffic seems to be at an end.

The Philadelphia Hospital is the refuge of the sick and poor of the city. The number of inmates frequently amounts to as many as four thousand, and the institution is naturally richer in clinical material than any other three hospitals in the city. Some of the visiting physicians have made use of their patients for purposes of clinical instruction to private classes. At a recent meeting of the Guardians of the Poor, which board controls this hospital, a resolution was offered which forbade such use of the patients. Said one member of the board: “I have no spirit of opposition to the advancement of medical knowledge, but this institution is a refuge to the poor and not a medical hospital. A portion of the faculty have taken advantage of the favors of the hospital committee, and have taken upon themselves to act independently.” The president then added: “It is understood that the faculty are to lecture only in the Amphitheatre, and I am bitterly opposed to any experiments being tried upon the unfortunate inmates of the house. I have heard to my great surprise that such experiments are being tried;” and he instanced a case of transfusion. The general sentiment was that inmates should not be exposed to or examined by students against their will, especially for the pecuniary benefit of the physician. The resolution was therefore unanimously adopted. The question was raised by the appearance of a pamphlet, issued by certain of the physicians, offering special advantages in the direction of ward clinics, for example: (1.) In the privilege of visiting regularly the extensive wards of the hospital. (2.) In the examination of pregnant women in the waiting wards for the rational and sensible signs of pregnancy. (3.) In being present at cases of confinement in the wards. (4.) In bedside instruction in the care and management of lying-in women. (5.) In the opportunity students have of attending women in confinement at their own homes. Besides these

advantages, opportunities were offered to become members of ward classes in auscultation and percussion, in diseases of the nervous system, clinical instruction in surgical wards, etc. It need not be said that the general sentiment among physicians is decidedly in favor of ward teaching. Only medical men realize how imperfect has heretofore been the practical clinical knowledge of graduates of American schools, and those of us who have seen the wealth of material which is offered to students in foreign hospitals only the more deeply appreciate the necessity in America of enlarging and improving opportunities of students to become practically familiar with disease and symptoms of disease. Symptoms which can be seen, heard, felt, or be brought to light by the student himself in a single case benefit him far more than would a hundred cases whose symptoms were merely described. The great lack of American schools has been practical, objective teaching, — too little of this and too much of the didactic. To prepare a man for practice his instruction should be practical. Hence the need of an improved method of instruction in many of our medical institutions. If, for example, the Clinical Conference, which forms so attractive a feature of the Harvard School, were introduced into the curriculum of every medical school in the country, we should in time have a more intelligent and practical body of medical men. It is undoubtedly true that many of our physicians go through their professional lives in ignorance of, or in embarrassment in regard to, the real character of many of their cases simply because they have never been practically taught the meaning of symptoms and the bearing of one symptom upon another. Indeed, they are often blind to symptoms which have the most important significance, and the treatment which they adopt is naturally of the happy-go-lucky sort, like the aim of the man who fired at a deer, missed it, and then found it was a calf. When rallied upon his poor marksmanship he said: "Oh, I knew what I was about. I was n't certain as to whether it was a calf or a deer, so I fired to hit it if it were a deer and miss it if it were a calf!"

The subject is suggestive of much which might and ought to be said, and was well said so long ago as the time when Bacon wrote his *Advancement of Learning*. (See his remarkable chapter on medicine, book iv. chap. ii.) I will, however, merely add that so far as Philadelphia is concerned there is an immense amount of clinical and pathological material in the Philadelphia Hospital and in the dispensaries which is not utilized. In the former there is the objection of managers to clinical teaching, and though necropsies are faithfully made, no systematic history is kept, — indeed, no history at all. The latter (the dispensaries), with their thousands of patients, are run by one or two men on a plan a century old. The wise specialization of the Boston Dispensary is unknown, and the unwise conservatism of the managers of Philadelphia dispensaries *forbids* any form of clinical use of the vast number of patients. The only exceptions are the eye and ear subdivision of the old Philadelphia Dispensary, which Strawbridge fought, one might say bled and almost died, to establish, and the obstetric department of the same institution. But neither of these is used for instruction. This is all wrong, but one can at least hope for a beneficial change.

I suppose you will shortly receive a copy of Dr. W. W. Keen's Toner lect-

ure on Surgical Complications and Sequelæ of the Continued Fevers. It is not only interesting, instructive, and well written, but somewhat original as to its subject, for it plows up ground heretofore but little cultivated, — never, perhaps, so systematically as has been done by Keen. The nine and one half pages of bibliography bear testimony to the thoroughness of his research and to the amount of time which he devoted to the preparation of his paper.

The king of Sweden and Norway has conferred upon Dr. William Pepper, of this city, the decoration of Knight Commander of the Norwegian order of St. Olaf (second class) in acknowledgment of services rendered by Dr. Pepper to the Swedish and Norwegian commissioners at the Centennial Exhibition.

I think you will, in this *dolce far niente* season, listen patiently to a legend touching a learned anatomist of Philadelphia, now gone. He was a methodical man, — so painfully methodical. that nothing could disturb the geometric arrangement of his waking hours. He was one day called upon by a gentleman, who was shown into the waiting-room and told that the doctor would shortly appear. While waiting he heard peal on peal of laughter in the adjoining room. Soon the doctor appeared, precise and prim. “Good morning, doctor. Something has amused you, I should judge. What was the good joke?” Said the doctor gravely: “There was no joke. It was my hour for laughter.”

H. O.

PHILADELPHIA, August, 1877.



COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING AUGUST 11, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	625	30.17	27.46
Philadelphia	850,856	373	22.79	22.88
Brooklyn	527,830	279	27.49	24.31
Chicago	420,000	225	27.86	20.41
Boston	363,940	180	25.72	23.39
Providence	103,000	53	26.75	18.34
Worcester	52,977	33	32.39	22.00
Lowell	53,678	32	30.99	22.21
Cambridge	51,572	33	33.27	20.54
Fall River	50,372	28	28.90	22.04
Lawrence	37,626	15	20.73	23.32
Lynn	34,524	16	24.09	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	15	29.17	23.57



OBITUARY. — George Henry Webster Herrick was born in New London, N. H., April 8, 1839. After graduating at the academy there, he studied medicine in Boston and Philadelphia, receiving the degree of M. D. from Jefferson College in 1861. He began practice in Enfield, N. H., but removed in a few weeks to Billerica, Mass., where he remained about three years, finally settling in Charlestown, where he acquired a very extensive and lucrative practice. Shortly after coming to Charlestown he went as an assistant surgeon to a military hospital at Norfolk, Va., from which he was appointed to the surgeoncy of the

First U. S. Volunteers, composed of rebel prisoners, and sent to Dakota, where they had several engagements with the Indians. At the close of the war he returned to Charlestown where he became a prominent citizen, a freemason of high standing, and a member of the Loyal Legion. His genial and courteous manners, which in part secured him his success, will long be remembered. In early life he connected himself with the Protestant Episcopal Church, of which he was a vestryman at the time of his decease.

His extensive practice, which occupied most of his waking hours, led him to overlook the initial symptom which, contracted while in the discharge of his professional duties as an accoucheur, finally assumed such a serious character last April as to necessitate leaving his practice and seeking relief by quietude at his native home, and later by a visit to Europe.

The disease had, however, made such advances as to cause a fatal termination, which took place at University College Hospital, London, July 21, 1877. He was as much a martyr as though while serving the government he had met his death-wound from the poisoned arrow of an Indian foe. His untimely death is universally lamented by his professional brethren of the district in which he lived and labored.

BOOKS AND PAMPHLETS RECEIVED.—Hay Fever, or Pollen Poisoning. An Essay read before the New Jersey State Medical Society. By Elias J. Marsh, M. D., of Patter-son. (Reprinted from the Transactions of the Medical Society of New Jersey.) 1877.

Contributions to the Treatment of Pulmonary Phthisis. By W. Gleitsmann, M. D. (From the New Orleans Medical and Surgical Journal.) July, 1877.

On the Brain of *Chimæra Monstrosa*. By Burt G. Wilder, M. D. (From the Proceedings of the Academy of Natural Sciences, May 29, 1877.) Philadelphia.

The Scientific Basis of Delusions. By George M. Beard, A. M., M. D. G. P. Putnam's Sons.

The American Medical Association and the United States Pharmacopœia. (A Reprint of the Pamphlets of Dr. H. C. Wood, Mr. Alfred B. Taylor, the Philadelphia County Medical Society, and the National College of Pharmacy. With a Rejoinder by Edward R. Squibb, M. D., Brooklyn.) 1877.

Public Health: Is it the Duty of Governments to provide for it by the Establishment of Sanitary and Hygienic Essentials? By G. P. Conn, M. D., Concord, N. H. (Reprint from the Transactions of the New Hampshire Medical Society.) 1877.

Woman's Medical College of the New York Infirmary. Ninth Annual Catalogue and Announcement. 1877-78.

The Practitioner's Reference Book, adapted to the Use of the Physician, the Pharmacist, and the Student. By Richard J. Dunglison, M. D. Philadelphia: Lindsay and Blakiston. 1877. Pp. 335. (From A. Williams & Co.)

Proceedings and Reports of the Sanitary Commission of the City of Atlanta, Ga. 1876. Transactions of the Medical Society of the District of Columbia. July, 1877. Wash-ington.

Thirty-Fourth Annual Report of the Managers of the State Lunatic Asylum, Utica, N. Y., for the year 1876.

Annual Report of the Board of Health of the Births, Marriages, and Deaths in the city of Richmond for the Year 1876.

Fat and Blood, and How to Make Them. By S. Weir Mitchell, M. D. Philadelphia: J. B. Lippincott & Co. 1877. Pp. 101. (For sale by A. Williams & Co.)

Cholera Infantum. Treatment of the Cold Stage. (Reprinted from the Cincinnati Lan-cet and Observer, August, 1877.)

Der Einfluss der Beschäftigung auf die Lebensdauer des Menschen nebst Erörterung der wesentlichsten Todesursachen. Von Dr. A. Oldendorff. Berlin. 1877.

On the Physiology of Sugar in Relation to the Blood. By F. W. Pavy, M. D., F. R. S. (Reprinted from the Medical Examiner.) London. 1877.

Ninth Annual Announcement of the Indiana Medical College. Indianapolis. 1877-78.

Excision of the Lower End of the Rectum in Cases of Cancer. By John B. Roberts, M. D. (Reprinted from the Medical and Surgical Reporter.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, AUGUST 30, 1877. — NO. 9.

PERSONAL OBSERVATIONS OF LISTER'S ANTISEPTIC TREATMENT.

BY ROBERT WHITE, JR., M. D.

THAT the system of treating wounds devised by Joseph Lister, of Edinburgh, is actively engaging the attention of surgeons throughout the world is evidenced by the frequent references to it in medical articles, and by the attempts made to carry it out in numerous hospitals in this country and in Europe. The constant presence at the Edinburgh Infirmary of representative surgeons from all parts of the world, especially from Germany, where Lister's system has been very extensively adopted, points to his wards as the present centre of surgical interest in Europe.

Most extraordinary results have followed this treatment in the hands of those who have faithfully carried out Lister's ideas and who have worked in accordance with the rules on which the method is founded ; it is evident that these are but imperfectly understood, many who have written on the subject, or who have attempted to carry on the treatment, betraying such a vague understanding of the true principles governing it that it is not difficult to account for the variety of results arrived at by different surgeons.

A residence of several months in Edinburgh, after my inspection of the attempts made to carry out the antiseptic treatment in the hospitals of England and the Continent, gave me the advantages of Mr. Lister's personal instruction in his methods, and the observation of his experiments and cases under circumstances more favorable for forming a correct opinion in the premises than are possessed by visitors who make a few hasty visits through the wards and come away with but very crude ideas of either the principles or the results of the treatment.

Without a proper comprehension and *acceptance* of the principles on which the antiseptic treatment is founded, any attempts to carry it out will almost certainly be attended with failure ; let us, therefore, briefly review these. Pasteur, Tyndall, Lister, and others have proved by extended series of experiments that atmospheric air, in even the most healthy and favorable localities, contains great numbers of minute germs or organisms in a state of great activity, and capable of proliferation with astonishing rapidity. As seen under high powers of the micro-

scope (400) their general form is that of a minute globule, or a chain of two or more of these, many of the single globules not being more than $\frac{1}{10000}$ of an inch in diameter; they are known by the general names of bacteria and vibriones. Numerous other organisms exist in the air, as the penicillum glaucum, the torula cerevisiæ, or yeast plant, and other germs, the introduction of which into liquids produces the various forms of fermentation; but the bacterial species spoken of above has special interest for us as being the recognized source of putrefaction, either directly or by some noxious substance generated by it. This is easily demonstrated by a few simple experiments. Examine microscopically a drop of milk that has been exposed to the air at a moderate temperature for forty-eight hours. Circulating rapidly among the oil-globules, and exceeding them greatly in number, will be seen the bacteria referred to above. If they should not be present in great numbers in the first specimen examined, their rapid proliferation in the course of a few hours will be astonishing to the new observer; the same thing may be seen in urine, meat juice, vegetable infusions, or other readily putrescible fluids. For comparison take any of the same fluids in a fresh condition, boil for some time to destroy any germs that may already have entered the fluid, examine with the microscope, and no bacteria will be found; leave the same liquid exposed to the air for twenty-four hours or more, and it will be found to be swarming with organisms that entered it from the air, or the same result will be produced in it in a few hours by the introduction of a minute drop of the fluid in which putrefaction has already occurred. If the boiled liquid be sealed, or the air having access to it be charged with an agent capable of destroying the germs, on examination weeks or months afterwards it will be found free from organisms, but after twenty-four hours' exposure will teem with them.

In the vast majority of abscesses in which there has been no communication with the air, no organisms are found, while in abscesses or wounds that have been exposed to the air for a few days they are generally found in greater or less quantity, and wounds that have assumed a putrid character fairly teem with them. An extended series of experiments have also shown that these germs may be destroyed and the air containing them rendered innocuous by the action of certain chemical substances (antiseptics), by continued heat, or that it may be quite freed from them by filtration. If a flask which contains milk, blood, urine, or any readily putrescible fluid, be boiled and the mouth of the flask well plugged with a bunch of carbolized wool before removing from the flame, the air which naturally regurgitates into the vessel on cooling must pass through the wool, where the germs are destroyed by the antiseptic, and no elements of putrefaction are introduced. In Mr. Lister's hands I have seen flasks of urine, milk, and blood which had pre-

served all the characteristics of perfectly sweet and fresh fluids for periods varying from one to two years. On being opened they were found quite free from organisms, but twenty-four hours after exposure they swarmed with bacteria, and presented all the other evidences of putrefaction. Experiments of this character may be varied to a great extent, all tending to show, however, the source of putrefaction and the means of preventing it; those above cited have special bearings on antiseptic surgery.

The latest researches made with reference to the ætiology of septicæmia and pyæmia go far towards proving that these diseases are produced by the absorption into the circulation of the putrefactive secretions of wounds. Pyæmia but rarely occurs when the skin is unbroken, and the absorption or even the injection of healthy pus into the circulation is often unattended by any bad effects, or when followed by symptoms they are much less marked than when putrid pus is injected, this causing all the symptoms of pyæmia. It may be asked, admitting this, Is it proved that the putrid pus on the surface of the wound can enter the circulation? It has been experimentally proved that pus corpuscles can reënter the veins through their coats, and the appearance of bacteria on the stumps of amputated limbs is soon followed by their appearance in the blood, in cases of marked infection, in such quantity that they outnumber the red corpuscles in the proportion of two or three to one. We know also the facility with which the white corpuscles penetrate the tissues and the walls of the blood-vessels. Moreover, it is not necessary that the pus corpuscles should actually get into the blood current, the absorption of the noxious products of putrefaction, whatever they may be, being sufficient to produce the dreaded effects. The epidemics of pyæmia, of hospital gangrene, and of erysipelas that occasionally prevail in certain localities are doubtless frequently caused by the air in the vicinity of patients suffering from putrid wounds becoming loaded with the noxious products of putrefaction, and the consequent infection of other patients through their wounds, to which the contagion is introduced by the germ-laden air. It is by the destruction of these germs and the purification of the air that comes in contact with the wounded surfaces, thus removing the causes of putrefaction, that Lister aims at the prevention of pyæmia, as well as the prevention of suppuration and the necrosis of tissues, and at the promotion of rapid healing.

This result is not to be gained by the occlusion of air from the wound, or by simply applying an antiseptic to it. Lister does not attempt the impracticable feat of excluding the air from the wound, but purifies it, and the simple application of an antiseptic to the wound falls far short of the results secured by proper antiseptic treatment. In the first place it is extremely difficult to have the antiseptic penetrate those

parts of deep wounds where putrefaction would most readily occur; secondly, and most important, any agent sufficiently active to insure the destruction of the germs, if applied directly to the wound, will act as an irritant, induce suppuration, and thus interfere with the rapid healing process which it is the aim of proper antiseptic treatment to promote, and during the progress of which the agent does not come in contact with the wound. That the action of a chemical irritant on the surface of a wound will greatly delay its healing is undisputed, and almost as certain is it that the decomposition of the albuminous secretions of a wound is attended with the generation of noxious substances which exercise an influence similar to that of the chemical irritant, with the same consequences of inflammation, suppuration, and slow healing. Under the antiseptic treatment this decomposition is prevented, the local process of repair goes on unchecked by the presence of irritating secretions, and rapid healing ensues. That the tendency of wounds is to heal, and that the time employed in healing is very much shortened, will be apparent to any one who makes more than a transient visit to Lister's wards.

It has happened to some who tried Lister's method that they have failed to obtain the results its advocates have claimed for it, either in the prevention of putrefaction or in the securing of rapid healing. Without doubt, in the majority of such cases the failure is due to ignorance of the principles governing the antiseptic treatment and the omission of some of the details necessary for its success.

Let us follow Mr. Lister through the steps of an operation and dressing, for it is only by the close observation and imitation of his treatment in all its minutiae that we can hope to secure the same results that are attained at his hands.

In addition to the ordinary requirements for an operation there are needed a plentiful supply of carbolic lotion (1 to 20 and 1 to 40), carbolic oil (1 to 10) for instruments, the "protective," the prepared dressing of carbolized gauze and waterproof or "mackintosh" cloth, and a large spray producer containing 1 to 40 carbolic solution. The skin in the vicinity of the part to be operated on is purified by washing with the 1 to 20 solution, the hands of the surgeon and of all the assistants who touch the wound, and all instruments or other objects that touch the wound are dipped in the same solution, the spray is thrown on the part, and the operation is commenced. The sponges lie in a basin of the 1 to 40 solution, and are rinsed in the same. The object of the spray is the purification of the air passing into the wound, which must be kept covered with it during the whole time of operation. If for any reason it becomes desirable to suspend the spray during an operation or dressing, the wound may be effectively protected for a considerable time by a "guard," a piece of cloth large enough to cover the

wound, being wet with the carbolic lotion and laid over it. If saw or gouge is used, it should be coated with the carbolic acid. Vessels too large to be secured by torsion should be tied with catgut ligatures. Into all wounds deep enough to admit one a carbolized drainage tube should be introduced, to facilitate the escape of the secretions. Where sutures are needed, those of carbolized catgut or wire should be used; the parts about the wound being well cleansed with carbolic lotion, the protective is cut large enough to extend a little beyond the edges of the wound and adapted. Much confusion of opinion exists as to the object of the protective. It is not a protection against putrefaction, but against the irritative action on the edges of the wound of the carbolic acid in the gauze dressing which is placed over it. The dressing is usually applied in folds of eight thicknesses, and between the two outer folds is placed a piece of mackintosh cloth with its waterproof side toward the wound; the object of this is to arrest any discharge that may penetrate through the layers of gauze between the mackintosh and the wound, and which but for its interposition would pass through the last layer of the gauze, and, having exhausted the antiseptic in it, would soon putrefy; when arranged in the manner described, the discharge is compelled to traverse the extent of the mackintosh between the central point, where it first impinges on it, and its edge, where the discharge can first come in contact with the elements of putrefaction. Before it reaches that point the dressing should of course be changed; the frequency with which this should be done is determined by the amount of discharge. Immediately after operations, or when a profuse discharge exists from any cause, it should be changed every twenty-four hours, and the intervals should be gradually extended to two, four, six, or even eight days as the discharge diminishes. The gauze dressing with its mackintosh should always extend several inches around the wound; in amputations it should envelop the stump, be folded over it, and secured with bandages of the same carbolized material.

It may be asked, Why the carbolized gauze particularly? Why is not a dressing well saturated with carbolized oil or carbolized glycerine equally effective? In a slight case, with little or no discharge and with frequent dressings, this might answer; but if the discharge be at all considerable, the volatile antiseptic is soon absorbed or dissipated, and the discharge putrefies; the resin with which the gauze is prepared holds the carbolic acid for a long time and gives it off slowly; but without the mackintosh to prevent the discharge penetrating directly through the dressing, the gauze would be little better than any other carbolized dressing.

At each changing of the dressings the spray should be directed on the edge of the gauze as soon as it is exposed by the cutting of the bandages, and on the wound as the gauze is raised from it; the protective is

removed, the wound washed in carbolic solution 1 to 40, drainage tubes, if there are any, taken out and washed in the same solution, replaced, new protective applied, and then a fresh gauze dressing. In all cases in which the gauze dressing has been made up for a long time beforehand, it is a wise precaution to place over the protective a fold or two of gauze wet in the carbolic lotion, for the dry gauze gives off the carbolic acid too slowly to destroy immediately any germs that may have fallen on it; the wetting of the inner layer of the gauze with the spray or lotion answers the same purpose.

At first glance Lister's system, with its necessary spray, gauze, mackintosh, and protective, may appear troublesome and expensive, but to one who continues to observe a large number of cases for a length of time it soon becomes evident that with the exception of the spray, which requires the aid of another assistant, for which duty the nurse or frequently even the patient will answer, there is but little more time or trouble required than for water dressings. As shown by the reports of the cases, the interval between the dressings is much longer, so that taking the whole duration of a case there is actually a saving of time, and the same rule will apply to the cost of the dressings.

The same piece of mackintosh may be used for many dressings if sponged over with carbolic lotion before being reapplied. It is well to provide two pieces for each case, so that the dressings may be prepared beforehand; it should not be forgotten that its action is not antiseptic in itself, but simply mechanical. The dressing should always be changed on the day following the operation, as the irritant action of the carbolic spray and lotion on the wound during the operation is followed by a free serous exudation, so that twenty-four hours after an operation performed under the antiseptic method the sanious discharge on the dressings will be much greater than under the ordinary method; but after the first day this rapidly diminishes, so that at the end of a week in favorable cases the dressings are hardly stained, and a stump or other extensive wound may heal without the formation of a single drop of pus. A few cases to illustrate these points will serve as well as a large number.

W. N. Adult. Amputation of fore-arm for caries of wrist. Patient phthisical and a bad subject generally, but he began to improve after the operation on February 11th. The dressings were changed February 12th, 15th, and 22d, and removed February 29th; the wound was really healed February 22d.

J. B. Adult man. Received severe injury necessitating Syme's amputation February 9th. Dressings changed February 10th, 12th, 15th, 20th, 27th, and March 6th, and 15th.

These wounds healed without the formation of a drop of pus or disturbance of any kind; they are not selected cases, but with another

similar one comprised all the capital amputations in Lister's wards at the time referred to.

The treatment of abscesses by the antiseptic method gives very satisfactory results. Mr. Lister and others believe that the suppuration in an abscess before it is opened is maintained by the stimulation of the pyogenic membrane by the pent-up pus, of which a good evidence is the force with which the pus escapes when the abscess is opened, and afterwards by the admission of septic germs into the cavity, causing putrefaction of the remaining pus and stimulation of the pyogenic membrane to increased secretion, which is continued for a long time under the ordinary treatment by poultices, water dressings, etc. In large abscesses this constant formation of pus gives rise to serious constitutional symptoms, which are avoided if the abscess be opened antiseptically, and if all the pus be pressed out at the time of incision, none will be found at the next dressing; as a matter of fact, however, a few drops of pus that have remained in the abscess will be found on the next dressings, which will be succeeded by a thin serous discharge that steadily diminishes, the abscess healing fast. It is not only in so-called cold abscesses that this favorable progress is witnessed; it is still more strikingly seen in abscesses connected with bone caries. Late researches tend to establish the theory that caries is the result rather than the cause of suppuration, and that if the accumulated pus be removed, without the supervention of the irritant action set up by putrefaction, the diseased bone is placed under the most favorable conditions possible for repair. The rapidity with which large psoas and spinal abscesses will heal when treated antiseptically could hardly be realized by any one who has not seen such cases.

The severe constitutional symptoms that attend putrefactive suppuration of the joints are almost wholly avoided by this treatment. It was very instructive to witness the difference in progress between two cases of acute abscess of the hip-joint in women with histories as much alike in all respects as two cases could be up to the time of their admission to the hospital, just previous to which the abscess of one had been opened without antiseptic precautions, the other antiseptically. In the former case there was free suppuration with putrefaction, caries, necrosis, and great constitutional disturbance. Excision of the head of the femur became necessary, and slow and imperfect recovery followed, with ankylosis, shortening, and a very imperfect limb. In the case treated antiseptically little or no pus was formed after the first evacuation, there was but slight inflammation, and no constitutional disturbance; the wound gradually filled with healthy granulations, and the patient was discharged with a freely movable joint.

When abscesses or bursæ connected with joints are opened and treated antiseptically, their rapid progress towards cure is very gratify-

ing, and the same favorable conditions attend the antiseptic treatment of chronic diseases of the joints. In gelatinous degeneration of the knee-joint and kindred affections, Mr. Lister does not hesitate to make free incisions into the joints, and the contained pus being evacuated no more is formed. It is a very striking thing to see joints into which extensive incisions have been made, and in which the space usually occupied by sloughing, putrid material is filled with a clean, healthy growth. I had an opportunity of seeing three such cases at one time in Mr. Lister's wards, and the absence of constitutional symptoms and the clean appearance of the wounds were very marked. A special point in the treatment of abscesses and affections in which cavities exist is that they are not to be syringed out except for special reasons, for the violent introduction of the irritant antiseptic into the cavity acts as an abnormal stimulant, and is wholly unnecessary, as the spray and dressings over the abscess purify the air that passes through them to its interior. The free evacuation of the pus from the abscess at once is a great improvement on the trocar, and in most cases on the aspirator, for the latter frequently does not prevent putrefaction with all its attendant evils, because if the smallest quantity of pus remains in the cavity it is very apt to decompose.

The dangers of all operations involving the joints seem to disappear in a great measure before the antiseptic treatment, and thus possibilities of conservative surgery are opened up to the surgeon that would otherwise be denied to him. A case in illustration of this was that of a man who lost the use of his arm from the impaired motion of the elbow, apparently from the growth of an exostosis into the joint; the latter was freely opened, and some two hundred pieces of loose cartilage were removed from between the bones forming the articulation; the dressing was changed daily for the first three days, on account of the free sanious discharge, and then at intervals of three, four, five, and six days. The patient was discharged at the end of three weeks, with the wound healed and perfect motion in the joint. The same favorable results attend the treatment of compound fractures, even where joints are implicated, as well as all operations on bones, Mr. Lister having had some very striking and happy results in both classes of cases. In nearly all cases of compound fracture from accident, and indeed in nearly all accidental wounds, there is ample opportunity between the time of infliction of the injury and the time of the patient's coming into the hands of the surgeon for the introduction of septic elements into the wound, and these, if not destroyed, will render all subsequent antiseptic treatment futile. Such cases are treated by syringing the cavity of the wound and thoroughly washing its surface with 1 to 40 carbolic solution. In deep, irregular, and sinuous wounds the syringing is best done by introducing a catheter into the recesses and sinuses, forcing the solution through it, and afterwards dressing under the spray as usual.

The inquiry may arise here, Why not dress all cases in the same way after an operation is concluded? Why will not the thorough washing of the wound with carbolic solution just before the application of the dressings be effectual, thus dispensing with the inconvenience of the spray? For two very good reasons: first, because such washing and syringing is not always effectual in preventing putrefaction, since, however thoroughly it may be done, cases may occur in which the deepest recesses of the wound into which the septic elements would readily find their way may not be reached by the antiseptic, and because during the time that elapsed between the infliction of the injury and the application of the antiseptic the elements of putrefaction may be taken up by the absorbents or otherwise introduced into the tissues beyond the reach of the agent, so that occasionally cases so treated do become putrid; secondly, because the violent syringing and washing with a strong solution introduces the element of irritation to a much greater degree than when the spray is used, and the avoidance of irritation is an essential point in the healing of wounds.

Expecting the antiseptic treatment to do too much is a source of disappointment to those who have not properly studied its principles: for example, using it in cases where the wound is already putrid, as in chronic abscesses, diseases of the joints with putrid sinuses communicating with the air, etc. So long as such cases remain septic they cannot derive any benefit from the antiseptic treatment, which *prevents* putrefaction in *aseptic* or non-putrefying wounds, but cannot change a putrid wound into an aseptic one, any more than a flask of milk, meat juice, or urine that had putrefied would be restored to the same condition as when fresh by the addition of an antiseptic atmosphere; but in the case of both the wound and the contents of the flask the protection of the same atmosphere from the first would have prevented putrefaction. On account of the vital processes going on in a wound, a septic wound may, however, occasionally be changed to an aseptic one by freely applying a solution of chloride of zinc (forty grains to one ounce) by syringe and catheter to the sinuses and deep recesses of the wound, as well as to the more superficial parts; this destroys the putrescent elements in the wound, they are thrown off, and it may thenceforward be treated antiseptically. Even when the chloride of zinc fails to render the wound aseptic, it is of great value in preventing suppuration and absorption of putrefactive products for some days, or until granulation becomes established; this is in accordance with a generally recognized surgical principle, that a healthy granulating surface presents the best known obstacle to the absorption of the noxious products of a putrefying wound; thus in extensive operations, especially about the joints, the use of the chloride of zinc saves much constitutional trouble at a critical time.

The use of the catgut ligature is an essential feature of the antiseptic treatment. Of the advantages of a ligature that can be cut short in the wound without exciting suppuration it is hardly necessary to speak. In the ordinary process of tying an artery the inner and middle coats are ruptured to a greater or less extent, and the remaining substance of the artery is so pinched up that much of it becomes practically dead tissue, which after a time breaks down into pus and allows the ligature to come away. If the artery in the vicinity of the ligature is plugged with a firm coagulum before this occurs there is no hæmorrhage; but if from any cause, as, for example, the starting of a large branch from near the point of tying, so that the constant current prevents coagulation, or the existence of degeneration in the wall of the vessel, the formation and attachment of a healthy thrombus is prevented, hæmorrhage will occur, and this is what happens too often with the silk ligature; the elements of putrefaction are carried in the interstices of its fibres to the dead tissue of the constricted artery, which is contaminated by them, putrefaction and suppuration are set up and maintained by the irritation of the septic ligature, and the vessel in its vicinity becomes an imperfect structure incapable of withstanding the cardiac impulse; besides this the existence of an external wound during the time necessary for the separation of the ligature delays the cure, and is an element of danger to the patient in exposing him to erysipelas, hospital gangrene, and pyæmia.

Even if the silk be carbolized and cut short in the wound, and the possibility of the introduction of septic germs be prevented by the antiseptic treatment, yet the remains of the silk, which are but imperfectly absorbed, may excite suppuration and all its attendant evils. The use of the catgut ligature has been sufficiently extensive to justify the most favorable opinions of it, and also to teach us its *modus operandi*. If any artery that has been tied with catgut under the antiseptic treatment be dissected out with the neighboring parts a month after the operation, it will be found that the ligature has become almost an integral part of the tissues, having become infiltrated with fibro-plastic elements organized and incorporated with the *adventitia* of the vessel, so that instead of acting as an irritant foreign body and an element of weakness it is a source of support to the weakened vessel by surrounding it with a band of living tissue, the change occurring here being similar to what takes place frequently in wounds treated under the antiseptic system, where the original blood clot formed in the wound, instead of breaking down into pus as usual, is actually transformed into organized vascular tissue, furnishing strong evidence of the superior reparative powers displayed by wounds treated in this way.

The advantages claimed for the antiseptic treatment of wounds by Lister's system may be briefly reviewed as follows:—

(1.) The individual wounds so treated are placed in the most favorable condition possible for rapid healing by the exclusion of the elements of putrefaction, with the consequent irritation and suppuration ; and the chances of the infection of the patient with erysipelas, hospital gangrene, pyæmia, and septicæmia from his wound are infinitely lessened.

(2.) Its influence in preventing the occurrence of the above-named hospital diseases where patients are congregated together, as in a ward, by checking the development of the *contagium* of these diseases in wounds which would surely be putrefactive under other treatment, and the infection by it of other wounds in the vicinity.

It must be borne in mind that the simple application of an antiseptic to the wound does not secure this result. On the contrary it may act injuriously by delaying the healing, but a treatment is required which will prevent putrefaction without the contact of an irritant agent to the injured tissues ; and there is little doubt that those who use Lister's system understandingly, and with a proper attention to necessary but not difficult details, will find that the results will exceed their anticipations.

OVARIOTOMY.

BY DAVID W. CHEEVER, M. D.

CASE XIII. Mrs. —, fifty-one years of age, and the mother of four children, was of spare habit and nervous temperament. She had long been a sufferer from dyspepsia and from hæmorrhoids, with frequent losses of blood. For four years she had been conscious of some abdominal trouble. In June, 1876, when I saw her, she was quite oppressed by a swelling which was oval, smooth, and fluctuating, and filled the abdomen. The swelling was evidently cystic, and could be moved from side to side. The uterus was natural, and free from adhesions. The breathing and digestion were seriously interfered with, the facial veins distended, locomotion quickly exhausting her. The diagnosis of a unilocular ovarian cyst, non-adherent, was made, and an operation to remove it was advised. For three months previous the patient had been taking a saturated solution of chlorate of potash, under a physician's care. The tumor had not been reduced. The patient was so feeble and the weather so warm that a preliminary tapping was recommended, as in Case XII., last reported.

It was hoped that this might afford her a respite through the summer, and give her time and digestive power to regain strength. She was accordingly tapped, and sixteen pints of ropy fluid were withdrawn. The tumor wholly disappeared. She was prevented from getting out of bed for a week. Soon afterwards she went to the sea-side, and was especially cautioned against riding, jolting, traveling, or using in any

way the abdominal muscles, for fear that adhesions might form between the refilling cyst and the abdominal walls. The hæmorrhoids were relieved by the tapping; appetite and digestion returned, and she passed a quiet and comfortable summer.

I saw her again in October and November, and the cyst was slowly filling. While it was still partially full, and before distention had begun to oppress the rectum and stomach, I urged an immediate operation.

This was agreed to, and done December 2d, six months after the tapping. The usual minutiae as to the bed, room, open fire, and hygienic care were observed, and the patient was given a laxative the day previous. No food was allowed on the morning of the operation. Drs. G. L. Underwood, F. W. Draper, and E. M. Buckingham assisted me. Wells's rubber sheet and trocar were used. The cyst was single, and there were no adhesions. It contained thirteen pints of fluid. The pedicle was brought outside, and secured with Wells's clamp. No means of drainage were employed.

From the first incision through the skin until the tumor had been cut away from the clamp and removed, only seven minutes were consumed. There being no leakage into the abdominal cavity, the peritonæum was quickly closed with five deep sutures.

No apparent shock followed the operation. The pulse remained of moderate frequency afterward, and there was but little increase of temperature.

Thirty-six hours after the operation vomiting of a grumous and bilious character came on. This persisted for twenty-four hours, when it subsided. The patient had had similar turns, which she called dyspeptic, in previous years. During two weeks she suffered much from colic, but never had great swelling of the abdomen or tenderness. The bowels were constipated, and were finally moved with a good deal of suffering and by mechanical aid.

The clamp came away on the seventeenth day. The patient was out of bed in four weeks. She is now perfectly well and quite active. The wound is wholly closed. She is obliged to wear an abdominal supporter.

The hæmorrhoids give but little trouble. The successful treatment by a preliminary tapping in this and the preceding case (XII.) seems deserving of a few remarks. In both these cases it is probable that had the patients been operated on to remove the cysts when first seen the result might have been fatal. Mr. Wells has advised waiting until the system is reduced and the woman an invalid before operating. There is such a thing as waiting too long.

While others assert that there is some climatic influence which affects patients with ovariectomy more favorably in England than here, we are disposed to regard the chief difference as dependent on the feebler

organic life and weaker digestive and nutritive powers of the American women. Vomiting, non-assimilation, and diarrhœa carry off many cases of ovariectomy here. The American is dyspeptic, poorly nourished, and anæmic, and needs a stronger digestive system. Under these circumstances she is apt to sink from the shock of an operation unless prepared for it beforehand. That preparation is feeding and assimilating. It cannot be done while a large tumor is pressing on the chylipoietic viscera. It can be done only by taking off the pressure, and giving the patient time.

The season of the year, too, is more important here than abroad. The exhausting heats of our summers are fatal to feeble patients after operation. Autumn and winter are the best times to operate; and were it not that we are obliged to set a day in advance for such operations, — to prepare the details and to quiet the patient's mind, — we believe that something would be gained by always operating when the barometer is rising or high.

CASES OF OVARIOTOMY.

BY JOHN HOMANS, M. D.

CASE VI. *Multilocular Cyst of the Left Ovary; Antiseptic Ovariectomy; Recovery.* — Mary B., aged sixteen, was admitted to the Carney Hospital February 17, 1877. The tumor had been discovered in the latter part of November, 1876, less than three months before her entrance; its growth had been very rapid. The girth at the umbilical level was thirty-eight inches. Her general health was excellent. The catamenia had appeared for the first and only time in August, 1875.

Ovariectomy was performed on February 27th, beneath carbolic spray, one part of the acid to sixty of water. The incision was about four inches long; two vascular adhesions to the mesentery were tied with carbolized silk and divided; many cysts were broken up within the parent cyst; the pedicle was tied in halves with carbolized catgut and dropped back into the pelvic cavity; the abdominal wound was closed by sutures of carbolized silk, and the wound dressed with Lister's gauze. Recovery was uninterrupted. The temperature and pulse rose above 100 but once; in the course of a week the patient took in all five sixths of a grain of morphia. On the sixth day the stitches were removed, there having been no suppuration. Nothing but ice was allowed till the beginning of the fourth day; then barley-water and beef tea in small quantities were given, and on the sixth day beefsteak. On the eighth day urine was passed naturally, and the patient seemed perfectly recovered; on the thirteenth day she was allowed to get out of bed, and on the seventeenth was no longer considered under treatment. From first to last there was no tympanites nor tenderness of the abdomen. She is now, August 24, 1877, stout and strong.

RECENT PROGRESS IN THE PATHOLOGY AND TREATMENT OF NERVOUS DISEASES.

BY JAMES J. PUTNAM, M. D.

Post-Hemiplegic and Allied Forms of Mobile Spasm (Athetosis). — The literature of this subject has been enriched during the year by several interesting papers which agree in maintaining that the affection to which the name of athetosis was given by Dr. Hammond has so many features in common with other spasmodic affections that, from the physiological stand-point at least, they must be studied in conjunction with each other.

The clearest analysis of these common features is given in an article by Dr. W. R. Gowers,¹ his conclusions being summed up in a comprehensive form in the following table: —

POST-HEMIPLEGIC DISORDERS OF MOVEMENT.²

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The following are the clinical facts which seem to call for especial attention: —

(1.) All these forms of spasm occur almost invariably in cases where voluntary power over the affected muscles is present to a greater or less degree, for example, generally during the recovery from hemiplegia; but Bernhardt is said by Dr. Gowers to have reported a case where these movements took place in a limb over which the will had absolutely no control.

Sometimes, indeed, the strength of the affected muscles is as great or greater than normal, and they themselves are hypertrophied. This fact cannot, however, be taken as a sign that the centres in which the processes underlying voluntary innervation take place are unaffected any more than in aphasia a similar conclusion could be drawn from the fact that the patient may remain able to utter certain words and phrases with distinctness, in both cases the power of reproducing large numbers of coördinated movements being invariably lost.

¹ Med. Chir. Trans., vol. lix.

² Dr. Gowers calls especial attention to the fact that all these forms of disordered movement, though usually preceded by hemiplegia, may occur as independent affections.

(2.) In the vast majority of cases the movements are unilateral, but occasionally, as in chorea, they are bilateral.

(3.) As a rule the movements succeed hemiplegic attacks, but in some cases¹ they come on gradually without preceding paralysis.

(4.) The subjects of the disordered movements are sometimes epileptic, and at the time of the seizures the muscles which are the seat of the movements are first and preëminently attacked; furthermore, in one of Dr. Gowers's cases the position given to the limb at the outset of the seizure was that which it was apt to assume under the influence of the semitonic spasms; again, this same position is sometimes assumed as an "associated movement," whenever the opposite healthy limb is moved.

(5.) Voluntary innervation, even if finally relatively successful in its aim, has usually at first the effect of increasing any existing spasmodic action of the muscles.

(6.) The spasms which are especially the subject of this paper, whether mobile or spastic, affect by preference the smaller, more rapidly acting muscles of the limb (in the upper extremity, the interossei), while the fixed spasms constituting the so-called "late rigidity" of hemiplegia affect especially the larger, more slowly acting muscles (long flexors). The slow, mobile spasm (athetosis) is usually confined to the extremities, but Charcot reports a case where some of the muscles of the neck and face were affected as well,² and in one of Dr. Gowers's cases (No. 11) something similar was seen.

(7.) Sensibility of the skin is usually stated to be impaired in athetosis; according to Dr. Gowers this is not always the case.

(8.) Rosenbach³ describes a case of locomotor ataxia such as others also have observed, where involuntary movements were to be seen affecting the fingers and toes. At the autopsy a lesion of the posterior lower and outer part of the nucleus lenticularis with the adjacent tissues was found, as well as the usual spinal lesions. As Rosenbach points out, the cerebral lesion was unilateral, while the muscular movements were bilateral, and the two may very likely not have been associated during life, but the observation is nevertheless of physiological interest in connection with the general subject.

(9.) As regards prognosis, it was mentioned in a former report that Dr. Weir Mitchell had seen slight improvement (in "post-paralytic chorea") follow persistent gymnastic training, a conclusion which the reporter can confirm, and Dr. Gowers has seen one case of the slow, mobile form get well apparently under the influence of the constant galvanic current.

As regards the pathology of these interesting affections, lesions have

¹ Gowers, Gairdner (*Lancet*, June 9, 1877), and others.

² *Leçons*, etc., 4^e fascic.

³ *Virchow's Archiv*, lxxviii.

been found by Charcot in the region known as that of Türek, the posterior part of the inner capsule, nucleus lenticularis, and optic thalamus (in cases where anæsthesia was also present, which he considers as constituting the typical form of the post-paralytic choreic affection); by Gowers in the middle region of the optic thalamus; by Mitchell in the corpus striatum; by Bernhardt in the tissues outside the corpus striatum; while in cases reported by Gowers and by Bastian the symptoms pointed to disease in the pons and in the crus cerebri, respectively.

Dr. Gowers calls attention to the fact that the lesion causing the hemiplegia which so often precedes these spasms seems to be much more frequently softening than hæmorrhage. Dr. Hughlings Jackson long ago suggested that the disorderly movements of chorea might be due to the irregular, excessive discharges taking place in the ganglionic matter surrounding some focus or foci of disease, and included within the area of increased blood supply, making the nutritive changes in them abnormally active; and Dr. Gowers, finding that in most of his cases the initial gross lesion, where such appeared to be present, was rather "softening" than hæmorrhage, was led to adopt a similar view, the partial (irritative) changes of nutrition in softening probably involving the tissues for a relatively great distance from the region of greatest change. Whatever the nature of these nutritive changes to which this supposed increase in irritability is due, they cannot be such as tend eventually to destroy the vitality of the ganglion cells concerned, since these movements usually persist with undiminished intensity for years, the affected muscles often becoming hypertrophied. It is likely that the explanation is partly to be sought for in another direction, namely, in the important principle so often dwelt upon by Dr. Hughlings Jackson, that the loss of one faculty involves the over-action of another which it had previously regulated and held in check. It is under this principle that many of the phenomena of hysteria, delirium, insanity, etc., are best explained, and it may be that the terse description of choreic movements as "insanity of the muscles" contains more scientific truth than at first appears. Following out this principle, Dr. Jackson has been led to believe that the late rigidity of hemiplegia and some forms of these involuntary movements are due to over-action of the cerebellum.

The dependence of the nervous centres for their maintenance in a state of healthy activity not only on excitations originating in each other, but upon those conducted to them from without, is also to be taken into account, especially in the explanation of such cases as that of Rosenbach.

If the application of this principle is correct, we should look for the cause of the symptoms to the disordered action not only, though perhaps primarily, of the gray matter partially involved in the particular

lesion, but also of all the other ganglionic centres which in health would take part with or without consciousness in the voluntary or reflex production of such movements.

Sunstroke. — In a leading article of the *Philadelphia Medical Times*, August 5, 1876, Dr. H. C. Wood gives a short sketch of his clinical observations during a portion of the period of the Centennial Exhibition. He was able to verify his previous conclusion "that there are two distinct classes of cases that have been confounded under the name of sunstroke." The characteristic feature of one class is the collapsed state of the patient; of the other, that the bodily temperature is excessively high, the latter being much the more common form. In illustration he instances the cases of two men, workmen within the buildings, both of whom fell over unconscious and were brought to the hospital in the course of fifteen or twenty minutes. Both were in a state of muttering delirium, with very rapid and feeble pulse, but in the case of one of them the breath was very cold, the skin very wet, and the temperature of the body as taken in the mouth only $95\frac{1}{4}^{\circ}$ F.; while in that of the other the skin was dry, and the buccal temperature still as high as $107\frac{1}{2}^{\circ}$ F. after the patient had been for some minutes in the ice bath, presumably, therefore, 108° or more at first. It would not do, then, to adopt a routine treatment of ice baths for every patient, those of the former type needing rather treatment by hot baths, by subcutaneous injection of ten or fifteen minims of the tincture of digitalis, and by diffusible stimulants.

The remarkable action of frequent cold baths in the other form of the disease, as well as in those cases of cholera infantum characterized by high bodily temperature, is strongly dwelt upon. After the cold baths Dr. Wood finds subcutaneous injection of quinine useful in preventing a second rise of temperature.¹

Volume lxiv. of *Virchow's Archiv* contains an interesting paper by Arndt upon the same subject, giving an account of the autopsies of three soldiers who had died from the effects of the heat during a long parade march near Berlin, in July, 1870.

In the two cases in which the thorax and abdomen were opened the organs were found swollen, their parenchyma pale, but the larger vessels were crowded with dark, fluid blood.

The brain, especially, which has usually been described as congested, was in all three cases found to be very pale and œdematous, and the convolutions compressed from within and flattened. This apparent discrepancy Arndt explains by the supposition that the great fullness of the large vessels had so far misled the observers that they had overlooked the parenchymatous anæmia. He thinks it highly probable

¹ Warburg's tincture, a compound of quinine with a large number of aromatics, deserves to be remembered in this connection. See *Practitioner* for February, 1877. — REP.

(unfortunately no microscopic examinations were made) that the ganglion cells of the brain, as well as the tissues of the other organs, were in a state of "cloudy swelling," the first stage of inflammation, and that to this the cerebral symptoms are regularly due, the greatly altered state of the blood acting as an additional cause, and both being traceable to the direct influence of the great heat.¹

This would give a pathological basis for the severe symptoms of nervous prostration and irritability from which the subjects of sunstroke often remain sufferers through life. The same he thinks may occur in the febrile diseases characterized by great bodily heat.²

Dr. Koester,³ in an autopsy upon a soldier who had died of sunstroke, found excessive swelling of the cervical sympathetic, with small hæmorrhages into its ganglia, and a similar condition about the vagi and the phrenics. He calls attention to the facts, because these parts are generally overlooked at post-mortem examinations, although disease of them must give rise to disturbances of the circulation and respiration.

Concussion of the Brain. — In a former report reference was made to the suggestion of Fischer, that in concussion of the brain a paralysis of the cerebral vessels takes place, such as is believed to affect the abdominal vessels in case of "shock," and that to this the symptoms are due. More recently Witkowsky⁴ has shown experimentally that in rabbits this is not invariably the case, and, furthermore, that in the vast majority of cases the dilatation of the vessels is preceded by a contraction, during which the symptoms may come on. He points out that with frogs the symptoms of commotio cerebri may be excited by tickling the floor of the fourth ventricle; also, that they may be made to occur after the heart has been cut out, and the circulation thereby put an end to, or where the blood has been replaced by a solution of salt.

For these and similar reasons he believes that in concussion of the brain not only the vaso-motor centres, but at the same time the respiratory centres, the reflex centres, and those in which the processes underlying consciousness take place, must be directly paralyzed.

Nerve-Stretching in Sciatica. — The plan of stretching violently nerve trunks which are the seat of neuralgia, first adopted by Professor Nussbaum, of Munich, has recently been employed with at least temporary success by some of the Edinburgh surgeons in a number of cases, of which two are reported by Mr. Chiene in the *Practitioner* for June,

¹ It has been shown experimentally that great heat is able to cause "cloudy swelling" of the abdominal organs. See Trans. of Lond. Path. Soc., vol. xxiv., article by Dr. Wickham Legg. — REP.

² The brains of typhoid patients have been examined by several observers, and signs of degeneration or inflammation found in the ganglion cells, though never exactly cloudy swelling. See a paper in Virchow's Archiv, vol. lxiii., by Popoff. Herzog Carl (Ibid., vol. lxix.) has failed to verify his observations. — REP.

³ Berliner klinische Wochenschrift, August 23, 1875.

⁴ Virchow's Archiv, lxix., p. 498.

1877. "The nerve is exposed by incision and hooked up, in the case of the sciatic, on the finger of the operator. It is forcibly pulled, first proximally and then distally; the limb of the patient is then lifted from the table by the sciatic nerve."

The wounds are treated antiseptically, and are painless. The nerve suffers no injury whatever. The patients had been suffering for months before the operation, but the pain was immediately relieved, and they were discharged essentially well at the end of three and four weeks, respectively, after it. There was no reason to believe that the nerves were bound down by any adhesions which were broken by the stretching, and the operation must be looked upon as a means of exerting a profound impression upon the affected portion of the nervous centres. It is not improbable that section of the nerves acts in a similar manner, and no better explanation than this has been offered of the action of section of the supra-orbital nerve for spasm of the orbicularis oculi, a mode of treatment which is frequently effectual in cases where the rest of the facial muscles of the same side are not involved.

Drs. Hall Curtis and C. E. Stedman, of the Boston City Hospital, have recently reported in the JOURNAL a number of cases of sciatica in which the treatment by the deep injection of chloroform, first introduced by Bartholow in a case of infra-orbital neuralgia, was used with marked success. Here the counter-irritant action may be due in part to pressure on the nerve by the inflamed and swollen tissues.

P. Vogt¹ has endeavored to determine experimentally the physiological and anatomical processes which are concerned in this nerve-stretching, and finds that the excitability of the nerve is demonstrably diminished, but that this is apparently due, not to the action of the pulling upon the nervous centres, but to a direct modification of the anatomical relations of the nerve fibres and blood-vessels within the nerve itself.

He gives also a summary of the cases in which the operation has hitherto been done (cases of neuralgia, clonic spasm, certain forms of epilepsy, traumatic tetanus), and lays down practical rules for its performance. An article by Professor Westphal² contains some physiological statements of importance in connection with this interesting subject.

The Relation of Pain to Weather. — Dr. S. Weir Mitchell,³ with the efficient aid of an intelligent patient, a sufferer from intractable neuralgia following amputation of the leg, has recently made a model attempt to give definite shape to our vague knowledge with regard to this subject by studying the periodicity of the attacks of pain in the light of all the accurate information which could be gathered as to the atmospheric conditions prevalent locally and in the country at large.

¹ Die Nervendehnung als Operation in der chirurgischen Praxis. Leipzig. 1877.

² Archiv für Psych. und Nervenkrank., vii. 3.

³ American Journal of the Medical Sciences, April, 1877.

Their results may be summed up as follows: The outbursts of pain were associated, as a rule, with diminution of the barometric pressure, although it was difficult to estimate the precise value of this factor in inducing the result.

Increased humidity of the air seemed to have more or less effect in exciting them.

The sensitiveness of the tissues to these influences was greatly increased by conditions impairing their general vitality.

Apparently no one of these influences was able by itself to bring on an attack; and the occurrence of the attacks in connection with the coming of a storm points either to a concurrent action of all of them or else to the presence of some other factor as yet undiscovered.

Efforts were made to record carefully the electric and magnetic conditions of the air, but failed from lack of suitable instruments. Captain Catlin did, however, notice that the pain was apt to be especially severe at times when the northern lights were brilliant.

With regard to the relation in space of these pain-producing influences to the storm centre, the point of greatest barometric depression, they are found occupying a zone about one hundred and fifty miles in width, lying in front of and embracing the rain area, which itself has a radius of five hundred and fifty to six hundred miles. Within this outer belt, which he calls the neuralgic margin of the storm, the sufferer may see nothing of the gross signs of bad weather. "It is somewhat interesting to figure to one's self thus: an area of rain girdled by a neuralgic belt one hundred and fifty miles wide, within which, as it sweeps along in advance of the storm, prevail in the hurt and maimed limbs of men, and in tender nerves and rheumatic joints, renewed torments, called into existence by the stir and perturbation of the elements."



ZIEMSEN'S CYCLOPÆDIA.¹

THE volume before us is divided into two parts: the first, by Bartels, treats of disease of the kidney proper; the second, by Ebstein, is devoted to affections of the renal pelvis, the ureter, and the neighboring tissues, and to some diseases, such as cancer, tubercle, and parasites, that attack the gland itself; anomalies and malformations are also considered. The merit is not equally distributed throughout the book; but as a whole it is very valuable, and we think there will be many who will regret that the volume cannot be obtained alone. Professor Bartels begins with a thorough discussion of the general symptoms of kidney diseases, the way to detect them, their significance, and especially the physiology of their production. He lays great stress on the importance of determining the whole quantity of urine passed in twenty-four

¹ *The Cyclopædia of the Practice of Medicine.* Edited by H. VON ZIEMSEN. Vol. XV. Kidney Diseases. New York: William Wood & Co. 1877.

hours for several days, but frankly admits the difficulty of doing so even in well-regulated hospitals. He admits also that the quantity is liable to vary for several reasons, but it appears to us that he hardly gives due weight to this variation depending, as it must, not only on the quantity of fluid taken but also on the state of other organs than the kidneys, the temperature, the amount of exercise, and sometimes even the mental condition of the patient. Indeed, he himself furnishes us with an instance that shows both the uncertainty of these examinations and a looseness of reasoning into which he is occasionally betrayed. He refers to the case of a woman who, for a fistula of the ureter, suffered the extirpation of a healthy kidney, in the hands of the late Professor Simon. Twelve days after the operation she passed thirteen hundred cubic centimetres of urine in twenty-four hours, and for the six weeks she was under observation, though passing less than the average quantity, she appeared to be well. The translator very justly remarks, in a foot-note, that he would like to know how the remaining kidney was a year or two later.

The discussion of the production of albuminuria is very interesting. The author shows that an increase of blood pressure may cause the discharge of albumen from a perfectly healthy kidney, and that in other cases there is some change in the walls of the renal blood-vessels. Of course these two conditions can coexist. The inquiry into the nature of uræmia, though well worth reading, is less definitely settled. The theory that the symptoms are due to the formation of carbonate of ammonia in the blood is shown to be untenable, and certain clinical observations prove that an accumulation of urea is not a necessary factor; but beyond these negative conclusions apparently little can be asserted. Bartels's conclusion, "that the symptoms are all caused by some disorder of the urinary secretion, and that the title of uræmia is rightly attached to them," is quite as much as any one is justified in assuming.

Passing over the other general discussions we come to the body of Bartels's work, the diffuse diseases of the kidneys. This is prefaced by the inevitable historical introduction, which in this case we are less than usually disposed to skip, as it gives a good idea of the nomenclature of different authors, and shows the extreme vagueness with which the term Bright's disease is applied. After this the author gives his own classification of the diseases which have more or less generally been grouped together as Bright's. It is as follows:—

- (1.) The active and the passive hyperæmia.
- (2.) The renal affection of cholera.
- (3.) The acute and the chronic inflammation of the parenchyma.
- (4.) The interstitial inflammation producing the contracted kidney.
- (5.) Amyloid degeneration.

The active hyperæmia of our author is simply the condition produced by certain renal irritants, of which cantharides is the most notorious, and is consequently of little interest. The passive hyperæmia is that caused by venous congestion, and can of course arise under various circumstances, but it is important as the form of renal disease depending on valvular disease of the heart. The choleraic affection of the kidney being practically a part of that disease appears out of place in a work of this nature. It should come under the head of cholera, not of diseases of the kidney.

Acute parenchymatous nephritis is strictly distinguished from the chronic. The latter is a continuation of the former only under exceptional circumstances. Bartels divides the causes of the acute disease into two classes: "The first category embraces all those causes where certain specific noxious substances are carried by the blood current to the kidneys, — substances which irritate these organs, and eventually cause them to become inflamed." "The second category comprises those causes which act upon the vessels of the kidneys and upon the circulation of blood through them in such a manner as to favor inflammatory changes in these organs; the causes here referred to act chiefly in a mechanical manner." We must confess to some doubt as to whether these classes can be kept separate; the matter is extremely obscure. Scarlet fever may be taken as the type of the causes of the first class. The author insists that it does not act mechanically, because albuminuria does not appear until after the height of the disease, while when it accompanies affections of large tracts of skin like eczema or psoriasis, it appears at their worst. Among causes of the second class the ætiological scapegoat (as the author properly calls it), "catching cold," is brought forward. Cases are cited of persons who, having carelessly exposed themselves when heated, have suffered from renal inflammation, but though no one will deny this fact we must insist that it is not proved that the kidneys were perfectly sound before the exposure. Why is it, we are frequently asked, that a sudden exposure will occasion in one person inflammation of the throat, in another, of the lungs, in a third, of the bowels, and in a fourth, of the kidneys? The probable explanation is that the "collateral blood fluxion," as Bartels calls it, or the cause whatever it be, attacks the part that from previous trouble is most liable to inflammation. That this is true of the throat and lungs is of every-day experience, and it is at least plausible that when the kidney is the point attacked it has either had some previous affection or, perhaps from some irritating substance in the urine, oxalate of lime for instance, is in a state that can easily be converted to one of inflammation. But this our author overlooks.

Just as the chronic parenchymatous inflammation is shown not to be a continuation of the acute form, so the contracted cirrhus kidney is shown not to be the result of the former affection. They are three distinct diseases, and, though with regret, we must give up the simplicity of the three stages of Bright's disease. We are very glad to observe that under both chronic parenchymatous inflammation and renal cirrhosis Bartels combats the wide-spread idea that kidney disease is the result of intemperance. He states that in all his experience he has only three times seen contracted kidneys in habitual drunkards. Bartels concludes his share in this volume with a very good account of amyloid disease of the kidneys, which he declares to be "invariably the local manifestation of a general constitutional disease." He shows that usually the spleen is also involved; that frequently considerable portions of the kidneys are healthy while parts of them are thus diseased; and moreover that the arteries of the kidneys are often thus affected in some of the other forms of renal disease. We must confess we are somewhat surprised, in view of the statement in quotation marks, that the author should recommend the sacrifice of a diseased limb as soon as renal trouble is apparent, and still more so that

he should be willing, as he states he is, to submit to it in his own person. We conclude from views expressed in different parts of these chapters that Professor Bartels believes that most kidney diseases are either secondary to other troubles or, like the amyloid degeneration, local signs of general mischief. If this important question had been discussed at length by itself it would have given additional value to this excellent monograph.

The second part of the volume, by Ebstein, is devoted to subjects of less interest. Amyloid degeneration is taken up again; we cannot guess why. Certainly we find nothing in the article to atone for the repetition, which is a fault in the unity of the work. The chapters on pyelitis, on inflammation in the tissues around the kidneys, and on nephrolithiasis are very good without offering much that is new. We are annoyed to meet, in both parts of this volume, with occasional commendatory allusions to Simon's severe operations; not that the removal of a kidney is necessarily to be condemned, but that the tendency of his teaching has been to make common what should be very rare. Ebstein recommends in certain cases Simon's examination by the whole hand in the rectum, which has already occasioned several unnecessary deaths. The chapter on movable kidney is an extremely interesting one. A kidney may be freely movable from two quite distinct causes: either it may have originally been provided with a fold of peritonæum constituting a true mesentery, or it may have broken loose from its attachments. The former condition is, of course, not likely to give rise to trouble, and probably is rarely diagnosed, while the second may have very serious results, and under favorable conditions may be recognized. The acquired movable kidney is usually the right one, and occurs most frequently in women of at least middle age. According to Cruveilhier tight lacing is a cause of the displacement, but Ebstein disputes this on the ground that it is found most commonly in the laboring classes.

The discussion of anomalies is chiefly of scientific interest. We are inclined to doubt Ebstein's assertion that when a kidney is "really and entirely absent" the corresponding ureter will be wanting also.

DISEASES OF CHILDREN.¹

It is with pleasure that we announce another edition of this useful book. The fifth edition having appeared in 1874 was duly noticed in the *JOURNAL*, and now that a sixth has appeared comment on our part is almost needless. Attention has been devoted rather to the careful revision of the text than to the addition of new articles. Night Terrors and Epidemic Cerebro-Spinal Meningitis are subjects which have been added. The clinical material in all cases is abundant; each subject is entered into in detail. The names of the authors are indeed a guarantee of the excellence of the work. We can safely recommend it to family practitioners as a book which is fully abreast of the times, and one which cannot fail to prove a valuable help to them in their practice.

¹ *A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., and WILLIAM PEPPER, A. M., M. D. Sixth edition, revised and enlarged. Philadelphia: Lindsay and Blakiston. 1877. Pp. 982.

HUTCHINSON'S ILLUSTRATIONS OF CLINICAL SURGERY.¹

THE present fasciculus, although it can hardly lay claim to cover any portion of the domain of clinical surgery, however remote, is nevertheless treated with a care and ability which consoles one who is disappointed at a tendency shown in many of the fasciculi to drift into subjects which might more appropriately be treated by the dermatologist; and yet there are few men who could handle a small and somewhat obscure point with the same nicety, and unfold its obscurities so completely, as Mr. Hutchinson. The subject in question is Xanthelasma Palpebrarum, and is illustrated by two handsome plates. There is also a tabular report of seventy-four cases. The author does not look upon it as a disease, but rather a "pathological consequence of frequently recurring physiological processes." "Thus its presence," he says, "enables us to look backwards and to tell the patient what he has gone through in the past, often with great definiteness." Occurring as it does upon the lids, it may be looked upon as a sequel to the tendency often to become "dark about the eyes," and an indication of the pathological processes which this appearance implies. There is a careful description of the minute anatomy of the affection, and many other points which space does not permit us to call attention to.

CAMP-CURE.

THE above title is a suggestive one to those who have been struggling on through summer, at the end of a hard year's work, and are enduring, with such resignation as they can summon, the debilitating influences of weather so characteristic of the month of August, and, we might add, of our climate. We remember, on returning to this country from abroad at this season, to have recognized, we can hardly say welcomed, among numerous national characteristics, the moist, warm or "dog-day" weather, to which we had been a stranger for some time. Whether this be a peculiar climatic feature of our summer or not, certain it is that this is a period of the year when even the most vigorous and energetic constitutions begin to feel the "lowering of tone" which is pointed out by a distinguished Philadelphia physician in a recent magazine article, in which the "camp-cure" treatment is attractively sketched. The writer seeks for a clue to this condition of the system in the wide-spread malarial influences at work in many portions of the country. He says: "It would be well worth some inquiry to learn if in countries totally free from ague-poison, the breaking up of winter weather be thus efficient to weaken." This portion of the country can hardly be accused, however, of any such influence, and yet such sensations and conditions as are described are as characteristic here as elsewhere. A more plausible explanation may be sought for, at least in New England, in the marked changes of the season. The bracing air of autumn and winter which enables us to withstand

¹ *Illustrations of Clinical Surgery.* Consisting of Plates, Photographs, etc. By JONATHAN HUTCHINSON, F. R. C. S. Fasciculus VII. Philadelphia: Lindsay and Blakiston. 1877.

those vagaries which Mark Twain has so graphically sketched, is poor preparation for the warm-bath-like atmosphere prevailing in the month of August. The imperfect sanitary conditions of many of our cities renders them unduly susceptible to the vitiating influences of weather of this character, and is not without its injurious effects upon the most stalwart citizens. The "camp-cure" can hardly be said to have any element of novelty in it, for late years have brought with them a realizing sense of the necessity for a "change" at this season. The sacred right of vacation is now, we believe, universally conceded; and, in this city at least, the humblest clerk claims his week or fortnight for rest at the mountains or in camp at the seaside. The fact, if it be one, that the medical profession is proverbially disinclined to take the advice which it urges so fervently upon others, would, we fear, be illustrated in this instance, were it not that many physicians are deserted by their patients at this time of the year. As it is, the imitators of Sir Henry Holland are fortunately more numerous than they were, and we rarely hear of an unbroken series of years' service without a single day of rest, a not infrequent boast at one time of some of our older practitioners. This separation of patient and physician is not alluded to in the "camp-cure," but is an element which doubtless should be taken into account, and is not without a certain mutual benefit, which we commend to the attention of some of our over-conscientious brethren.

MEDICAL NOTES.

— We would call attention to the advertisement in another column of the Surgical Observations of the late Dr. J. Mason Warren. This book had hardly left the printer's hands when Dr. Warren's death prevented any arrangements for placing it at the disposal of the profession. The work is eminently a practical one, containing the life-long experience of a hospital surgeon and active practitioner. Carefully-selected cases illustrate the various subjects treated, covering nearly the whole domain of surgery. There are numerous matters of historical interest, such as the discovery of anæsthesia, in the circumstance connected with which Dr. Warren and his father bore the most prominent parts of the surgeons of that day. The book is valuable as a work of reference.

— We are fully authorized to deny the statement made in the columns of the daily press that Dr. Harris, the medical examiner, will furnish "an official report of the cases investigated by him to the newspapers for publication."

— *The Louisville Medical News* makes the following quotation from Dr. J. Mason Warren's Surgical Observations on the introduction of ether at the Massachusetts General Hospital: "In the autumn of 1846, Dr. W. T. G. Morton, a dentist in Boston, a person of great ingenuity, patience, and pertinacity of purpose, called on me several times to show some of his inventions. At that time I introduced him to Dr. John C. Warren. Shortly after this, in October, I learned from Dr. Warren that Dr. Morton had visited him and informed him that he was in possession of, or had discovered, a means of preventing pain, which he had proved in dental operations, and wished Dr. War-

ren to give him an opportunity of trying it in a surgical operation. After some questions on the subject, in regard to its action and the safety of it, Dr. Warren promised that he would do so. On the Tuesday following, October 13th, after the surgical visit at the hospital, a patient was brought into the amphitheatre for operation. This being the first opportunity which had occurred since Dr. Warren's promise to Dr. Morton, Dr. Warren said to us: 'I now remember that I have made a promise to Dr. Morton to give him an opportunity to try a new remedy for preventing pain in surgical operations,' and asked the patient if he should like to have the operation done without suffering. He naturally answered in the affirmative. The operation was therefore deferred until Friday, October 16th, when the ether was administered by Dr. Morton with his apparatus, and the operation performed by Dr. Warren. It consisted in the removal of a vascular tumor of the neck, which occupied five minutes. During a part of the time the patient showed some marks of sensibility, but subsequently said that he had no pain, although he was aware that the operation was proceeding. On the following day a woman requiring the removal of an adipose tumor from the arm was rendered insensible by ether, given by Dr. Morton, and Dr. Warren requested Dr. Hayward, who was present, to perform the operation. This was successful, the ether being continued through the whole operation, which was a short one, and the patient being entirely insensible."

— *The Louisville Medical News*, speaking of the disinclination of Americans to indulge in active exercise, says: Base-ball has utterly failed to bring out the American muscle. There is a glimmer of hope that the health-lift, which is the lazy man's gymnasium, may do something toward it, but we fear it will end at last in massage being the only exercise the American can take. We believe he can at least lie still and be rubbed.

— The Paris correspondent of *The Lancet* of July 28, 1877, records the opening of an abscess of the brain with the knife, by Drs. Tillaux and Proust. The patient was convalescent from an attack of illness, when one day he was taken with right hemiplegia and aphasia. He had necrosis of the parietal. Drs. Proust and Tillaux, after considering the particulars of the symptoms, thought that the phenomena were due to pressure exerted by the necrosed bone, or even to the existence of an abscess in the dura mater or in the cerebral substance. An incision was made, two splinters were removed, the dura mater was laid bare, and found thickened and covered with fungous growths. It was then decided to wait a few days to see whether compression had caused the symptoms; but the aphasia and paralysis persisted, and Dr. Tillaux, in order to avoid the longitudinal sinus, widened the opening made in the skull, and having selected a suitable spot, cut the dura mater, and thrust the bistoury into the cerebral substance. A jet of matter came away, and a grooved sound was used with the result of obtaining a teaspoonful of matter. A thread was then put in. Immediately after the operation the patient recovered his speech, and declared he felt much better. Paralysis has not disappeared. There was evidently some encephalitis round the abscess, but the patient's life was saved.

— *The British Medical Journal* states that according to official report the damage done by wolves in Russia in forty-five governments amounts to seven

and a half millions of roubles annually. Even this sum is not supposed to be sufficiently large. The number of wolves is estimated at 200,000. Each requires for its annual maintenance about twenty-three hundred weight of flesh. The whole army, therefore, must consume every year about 230,000 tons, 500,000 geese and 100,000 dogs being included. There were also 161 human beings destroyed. Altogether, the amount of damage done may be valued at not less than 15,000,000 of roubles, or £2,000,000. A good many wolves are killed every year, but hunting has declined since the emancipation of the serfs, by which the wolves have profited. Of late, it has been proposed to get rid of them by means of strychnine, but it remains to be seen whether the plan will succeed.

— W. F. Parsons, M. D., of Enfield, reports in the Proceedings of the Connecticut Medical Society for 1877, the case of a child three years old who was bitten by a dog in May, 1876, and died of hydrophobia May 13, 1877, — a year after the occurrence of the primary lesion.

HOSPITAL NURSES IN LONDON.

MESSRS. EDITORS, — Although the theme is not a new one, I take the liberty of calling the attention of your readers to a few points in the system of nursing at the London hospitals, which, like almost all the institutions of this intelligent and order-loving English people, deserves careful study.

Naturally it is to the large hospitals having training-schools attached to them, especially St. Thomas's, Kings' College, and now St. Bartholomew's, that one turns to see their system at its fullest development; but it is less to the methods of teaching in the schools themselves than to the nature of the ward work that I wish particularly to call attention.

With regard to the classes of society from which the pupils at these training-schools are drawn, two of the schools, St. Thomas's and Kings' College, receive, besides the young women ("probationers") who need only to be respectable and capable, and who are destined to become under-nurses (technically "nurses") alone, a certain number of so-called "lady probationers," women often of first-rate education and social position, who pay for their instruction, but who, after passing regularly like the others through the two lower grades, become qualified to be head-nurses or "sisters" of the wards.

It seems doubtful whether, without drawing them from the ranks of the lady probationers, it would not be easy to supply equally good head-nurses from among the other pupils, and, moreover, the caste separation sometimes causes a little ill feeling; but the fact that the arrangement exists is interesting in two ways: first, because it furnishes a good illustration of the feeling prevalent in England, which has certainly something to recommend it, that to learn to fill even a subordinate position well, though without the chance of rising higher, is an aim with which one may honorably rest content; secondly, because it helps to show, if further demonstration were needful, that it is not impossible for women to retain thorough refinement while performing kinds of work which with us have usually been done by men only. For

in the London hospitals, the face of a male ward-tender is comparatively rarely seen in the wards, one part of the work allotted to him in some of our hospitals being assumed by the "dressers," who value their opportunities for learning in this way so much that they are willing to pay for them, and another part devolving on the nurses; and I have it upon the authority of a lady familiar with the working of the best hospitals both here and in America, that this arrangement is much the pleasanter of the two for the nurses; the ward-tenders, who are practically possessed of a vast amount of power for annoyance, being, in fact, more apt to be insolent and rude than the patients, and being often hard to get at when wanted.

Again, the nurse is able to do thoroughly what a busy ward-tender, with his multiform duties, is apt to forget or neglect. Thus, in some of the best hospitals here, every patient, male or female, if confined to bed, though only for a few days, is examined twice daily by the nurses for bed-sores, and in consequence of this it is a thing unknown, except in certain sorts of cases, for a bed-sore to develop after a patient's entrance.

In cases of Bright's disease and others, the daily quantity of urine passed by the male patients is measured by the nurse and reported by her to the physician, as are also the details as to the character of the stools. The male patients are washed by the nurses to the waist, and stripped by them at the visit for examination of the chest. Patients in urgent need of mustard poultices, abdominal fomentations, or the bed-pan are not left to wait the coming of a ward-tender, who may be engaged in other work or absent at a distant corner of buildings covering an acre or two of ground, nor thrown on the services of a friendly fellow-patient, but are attended to by the nurse *secundum artem* and at once.

As a further beneficent result of this state of things there is every reason to believe that so far from indecent behavior being made more common, prudery, which in the end leads as often to indecency as to greater decency, is discouraged. Possibly this might not be the case in a country where the relations between the different classes "in the way of business" were less formal and strict than they are in England. Anything like familiarity between assistants, patients, and nurses is discountenanced, and in one hospital it is even out of rule for a medical officer to address himself at all to any nurse except the sister of the ward. At the same time both sister and nurse and often under-nurse or probationer are usually expected to accompany the physician on his visits, holding themselves ready to give information, and putting themselves in a position to become imbued with his spirit, and to learn his views of the patients' needs. Breaches of discipline are severely punished, are rare, and in general nothing could be more respectable than the faces and bearing of the nurses both high and low. The mode of teaching in the training-schools here is much the same as in our own, except in certain details.

The English would unquestionably find many things worth copying in our systems of nursing, perhaps even in respect to the points especially referred to in this letter, but it seemed worth while to note down what struck me as praiseworthy for the consideration of those better able to judge in the matter than myself.

MINERAL WATERS.

Messrs. Editors, — Having for the past eighteen months used the Sheboygan mineral water in general practice with remarkable success, the writer considers it a duty which he owes to the medical profession of this country, as a slight return for the valuable information he has received from the experience of other physicians as communicated through the pages of the *JOURNAL*, to report what he has been able, by his own observation, to gather of its therapeutical value, and to recommend it to farther and more scientific investigation.

The analysis by Professor Chandler, of New York, shows this water to be closely allied to the waters of Kissingen and Kreutznach of Germany, containing each and every mineral found in the waters of Kreutznach, and, with the exception of chloride of sodium, in nearly the same proportions. As compared with Kissingen it contains the same amount of chloride of sodium, as well as all of the other salts, nitrate of soda only excepted. In addition to the minerals found in Kissingen and Kreutznach, Sheboygan shows traces of sulphate of baryta and biborate of soda, with a small amount of bicarbonate of manganese.

Guided by the well-known hand-book of *Balneo-Therapy*, edited by Dr. H. Helfft, Berlin, 1867, the writer has prescribed this mineral water for nearly all the diseases for which Dr. Helfft has recommended Kissingen or Kreutznach, and his success has thus far been highly encouraging, especially in the treatment of scrophulosis, arthritis, chronic rheumatism, chronic catarrhs of the bronchial tubes and the alimentary organs, hyperæmia of the liver and kidneys, hæmorrhoids, anomalies of the menstrual functions, chlorosis, and many chronic diseases of the skin, joints, and bones.

This mineral water flows from an artesian well bored in one of the parks of the city of Sheboygan, Wisconsin, in 1875, to the depth of 1475 feet, 1383 feet being through solid rock. At a depth of 285 feet a fissure was found in the rock of three or four feet in width, below which no seam was discovered. At a depth of 1263 feet a white sandstone was struck, and at 1350 feet a flow of water was obtained; at 1475 feet four inches below the surface a hard rock resembling granite was found, and after several attempts to drill without success work was suspended. The well having been carefully tubed the water flows bright, clear, and sparkling, free from any organic matter or unpleasant odor, about two hundred gallons per minute at a pressure of forty-two and a half pounds to the square inch, with a uniform temperature of 59° Fahr.

The water is rich in saline materials, containing lithia, bromine, iodine, with chalybeates and carbonic acid gas enough to make it at once a most valuable stimulating alterative and tonic. In taste it is somewhat salty and slightly bitter, but not at all nauseating; drinkers soon become accustomed to it, and some even prefer it to pure well-water.

After careful trial by the profession we bespeak for it high rank among the mineral waters of the world.

LOUIS BOOTH, M. D.

SHEBOYGAN, May, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING AUGUST 18, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	533	25.73	27.46
Philadelphia	850,856	340	20.78	22.88
Brooklyn	527,830	279	27.49	24.31
Chicago	420,000	182	22.53	20.41
Boston	363,940	196	28.00	23.39
Providence	103,000	34	17.16	18.34
Worcester	52,977	25	24.54	22.00
Lowell	53,678	23	22.28	22.21
Cambridge	51,572	32	31.49	20.54
Fall River	50,372	27	27.87	22.04
Lawrence	37,626	23	31.79	23.32
Lynn	34,524	15	22.59	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	10	19.45	23.57

OBITUARY. — George Lewis Collins was born at Hopkinton, R. I., December 31, 1820, of Quaker parentage, his ancestors having emigrated from England to this country in 1635. He attended the district school in the town in which he was born, and afterwards graduated in 1842 from the Friends' School in Providence. He studied medicine under Dr. Henry W. Rivers, and obtained his diploma in 1846 from the University Medical College of New York. He commenced the practice of his profession in Providence, and by his untiring industry and devotion to his professional duties it soon grew to be large and lucrative. In his earlier years he gave much attention to surgery, but later in life he gradually dropped this specialty and evinced a preference for general practice. At the time of his death he ranked among the first physicians of Rhode Island, and was held in high respect both in and out of the profession for his cool and correct judgment, his skill in diagnosis, and his success in the treatment of disease. He was a close clinical observer, and papers recording the results of his observations have appeared at various times in the pages of the JOURNAL. During the course of his long professional career he held many offices of honor and of trust, among which the following may be mentioned: city physician for the city of Providence, physician to the State Reform School, consulting physician to the Butler Insane Asylum, attending physician to the Rhode Island Hospital, president of the Providence Medical Association, of the Rhode Island Medical Society, and of the Franklin Philosophical Society, trustee of Brown University, member of the American Medical Association, and delegate to the International Medical Congress. Throughout his life he retained the faith of his ancestors, and at the time of his decease was a member of the Society of Friends. His death, which occurred August 21, 1877, was caused by an attack of cerebral hæmorrhage, which terminated fatally after twenty-eight hours of unconsciousness. His loss is deeply felt by the profession and by the community in which he labored faithfully for so many years. V. O. H.

THE Department of Health expects to present the following papers in sectional session at the Saratoga meeting of the Social Science Association, on the 6th and 7th of September. A cordial invitation to be present is extended to all persons. Annual Report by the secretary of the department, D. F. Lincoln, M. D. Is the Intellectual World growing Near-Sighted? By E. G. Loring, M. D., of New York. Ventilation and Warming of Schools. By F. Winsor, M. D. Same subject. By A. C. Martin, Esq. Same subject. By F. Tudor, Esq. Injury to the Health of Girls from Imperfect Early Training. By Mrs. A. C. Martin, of Boston. School Desks and Seats. By A. H. Nichols, M. D. The Half-Time System in Education. By D. F. Lincoln, M. D. Health and Study, a debate in which Dr. Mary Putnam-Jacobi and others are expected to take part.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, SEPTEMBER 6, 1877. — NO. 10.

FRACTURE OF THE PATELLA.¹

BY OCTAVIUS THORNDIKE HOWE, M. D.

THE following is an analysis of fifty-nine cases of fractured patella occurring in the Massachusetts General Hospital: —

Number of cases:	
Males	47
Females	12
Causes of Fracture:	
Direct blow	48
Muscular action	11
Character of fracture:	
Simple	56
Compound	2
Comminuted	1
Species of fracture:	
Transverse	51
Oblique	2
T shaped	2
Compound ²	2
Comminuted	1
A small fragment broken off	1
Refractures	8
Double fracture	2
Average amount of separation before treatment	1.1 inch.
Average amount of separation after treatment . . . . .	.33 inch.
Bony union	2 (?)
Average length of treatment in the house	6 weeks.

Of the fifty-nine cases of fracture 81.4 per cent. were the results of a direct blow, and 18.6 per cent. were caused by muscular action. The greatest distance apart of the fragments before treatment was four inches, and the result one half inch separation. The greatest amount of separation after treatment was one half inch. In nine cases where the separation ranged from one to four inches the average distance between the fragments after treatment was two fifths of an inch. There were four cases where patients walked about on the injured leg for six or seven days and still got good union.

There were two cases of probable bony union. In the first case

¹ Graduation Thesis, Harvard Medical School.
² No particulars given.

there was a transverse fracture about the middle, but the fragments were held in such close apposition by the aponeurotic covering of the patella that it was only by crepitus that it was at first diagnosticated.

The second case was a particularly interesting one. The patient, a married woman, fractured her patella, and owing to pregnancy received no treatment. A year and a half after the accident she applied at the hospital. At that time there was an inch and a half separation, and the leg was almost useless. The joint was opened, a portion of each fragment removed with the bone forceps, and the parts were wired together. In six weeks the fragments were firmly united by apparently bony union.

One patient entered the hospital four times for fracture of the patella. The first fracture was a transverse one, and she was discharged in four months with good union. Six months after, she returned with a second fracture, the line of separation in this case extending downwards and outwards from the first. She was again discharged with good union. The third fracture, which occurred fourteen months after, was in the same place as the second, and also resulted well. The fourth fracture was at the lower border of the patella, and she was once more discharged with a good result. The first three fractures were from direct blows; the last from muscular action.

In a large number of cases there was considerable effusion into the joint, but this did not seem to interfere with the ultimate approximation of the fragments.

The treatment adopted was various: the leg was frequently put upon the Goodwin, McIntyre, or Whitten splint, and as soon as the effusion had subsided the fragments of the patella were drawn together by bandages or plaster in various ways. A ham splint with a figure eight bandage about the knee has been a favorite method of treatment, a new bandage being reapplied over the old as soon as it became loose. A ham splint merely, without any attempt to bring the fragments together, has been found to work well, the fragments falling into apposition of themselves.

In a certain number of cases apparatus designed especially for this fracture was used. The leg was kept on the splint or in the apparatus for a period of from three to eight weeks, and then a plaster or dextrine bandage was put on, which was worn for at least four weeks more; the patient was then encouraged to begin using the leg. Whatever the method of treatment, however, the results appear to be about the same. There is nothing in the record of the cases to show that anything was gained by the more complicated appliances.

In treating, then, a case of fracture of the patella we have three things to consider:—

(1.) How to obtain the best result.

(2.) To do this with least pain and discomfort to the patient.

(3.) The simplicity and accessibility of the apparatus.

Probably for no other fracture have there been so many complicated apparatuses invented as for this, and if any of these possess preëminent advantages it is our duty to use them so far as lies in our power. But when we find the same results obtained by simple means, less annoying to the patient and accessible to all, we have no hesitation in deciding for the latter.

When called, then, to a case of this fracture our first thought is to make the patient as comfortable as possible. The leg should be placed on a ham splint, and bandaged so as to leave the knee exposed. If there is much effusion, ice-bags should be applied to the knee. The patient being kept quiet, then, the fragments will tend of themselves to draw together, and as soon as this is accomplished and union has begun some form of stiff bandage may be applied, as early, perhaps, as the third week. The stiff bandage should be kept on for a month or six weeks, and then it should be removed and the patient be encouraged to begin to use the leg. He should be warned that, however close the union may be at first, in all probability the interval will lengthen under use. The treatment by simple rest or by a ham splint and figure eight bandage is unsatisfactory certainly; but then, so are all the methods of treatment, and other things being equal the simplest is the best. In case the fragments are not approximated by these means some other apparatus can be tried, which may well be left to the ingenuity of the surgeon in charge.

I will close with the report of a case at the Massachusetts General Hospital, in the service of Dr. Cabot, in which an apparatus, so far as I know original with the writer, was used with good result. To any one who has used the short Dessault splint for fracture of the leg its application will be apparent. It is readily put on, is very comfortable to the patient, can be managed by any one, and does not need to be readjusted. It leaves the knee exposed, so that applications may be made to it if necessary, and brings the fragments together with a force at once powerful and easily controlled.

Patrick F., thirty-two years of age, while driving was kicked in the knee by his horse, causing a transverse fracture of the patella, the lower fragment being broken in two pieces. A temporary splint was put on the leg, and he was brought to the hospital ten hours after the accident. The knee was then very much swollen, and there was pain and exquisite tenderness in the neighborhood of the joint. There was about two thirds of an inch separation between the upper and lower fragments of the patella. The leg was put on a ham splint and ice-bags were applied. Two days later, the effusion having somewhat subsided, an attempt was made to bring the fragments into apposition. The apparatus

used was as follows : Two long, narrow side splints extended on each side of the leg from the middle of the thigh to about ten inches below the foot. These splints were connected at the lower end by a movable cross-bar, which could be fixed at any point by means of pegs. Through the middle of the cross-bar played a screw, to the end of which was attached a wire yard. The yard, of course, advanced or retreated with the turn of the screw.

Thus far it was simply a Dessault's apparatus. Two broad strips of plaster were started well up the thigh and fastened securely to within a short distance of the patella ; these strips passed down the leg, to be attached to the wire yard at the end of the screw, thus furnishing extension. Similar strips of plaster, but somewhat narrower, were started on the leg and passed upward through slits cut in the upper pieces of plaster to be attached to the end of the splint ; this supplied counter-extension. By turning the screw, then, the fragments of the patella could be drawn together by a force to be measured only by the strength of the apparatus and the patient's endurance. For the next three weeks the fragments were kept in close apposition without pain to the man. A dextrine bandage was then applied, and the patient was discharged.

Three weeks later the dextrine was sawed off, and firm union was found, the fragments being about one eighth of an inch apart.

EXTRAORDINARY TOLERANCE OF A POISONOUS DOSE OF CHLORAL HYDRATE.

BY PHANUEL E. BISHOP, M. D., PAWTUCKET, R. I.

ON the evening of the 12th of July Mr. P. R., of Irish parentage, aged thirty-two, a glazier by trade, came into my office suffering from nervous prostration and loss of sleep, consequent upon the free use of alcoholic liquors. He had been drinking more or less every day since the 4th. He did not present any marked symptoms of delirium tremens. I prescribed strong coffee, beef tea, aromatic spirits of ammonia, and gave him twenty grains of Dover's powder to take at bed-time.

I saw no more of him until the next evening, when I was called to his home. I learned from his wife and others that he had not slept for sixty hours. He presented a typical case of delirium tremens with all the mental aberrations, illusions, hallucinations, etc., which usually accompany the disease. I wrote the following prescription, which is the one I usually give in like cases : —

℞	Chloral hydrate	3 ss.
	Ext. scutillariæ fld.	3 j.
	Syr. zingiberis, adde q. s. ut ft. mist.	3 ij. M.
S. A teaspoonful in an ounce of brandy every half hour until the patient sleeps.		

I was hastily summoned again shortly afterwards, and upon arriving found that in a few minutes after receiving the first dose he had seized the bottle from his wife's hand, and before he could be prevented had swallowed ten drachms of the mixture, making a trifle over eleven drachms in all. I immediately stirred three tablespoonfuls of ipecac root (about half an ounce) and one teaspoonful of the sulphate of zinc (fully one drachm) into about a pint of warm water, and with great difficulty compelled him to swallow it. It produced no effect whatever as far as emesis is concerned. I was unable to procure a stomach-pump.

A Catholic clergyman had been summoned, and, as I had unhesitatingly given my opinion that he could not survive, the last rites of his church were administered. Shortly afterwards he sank into a profound sleep, to arouse him from which many things were tried in vain.

During the first hour his pulse rose to the highest point, namely, 132. In the third hour it had come down to 88, and there remained unchanged, full and soft. The temperature was often taken, and never varied from 99° Fahrenheit. This is perhaps the most remarkable feature in the whole case, as I have always noticed a diminished temperature following even a dose of ten grains. He slept thirty-six hours. At the end of eighteen hours we were enabled to arouse him so that he could take liquid nourishment in abundance, but to keep him awake for a few minutes was simply impossible. I never before have witnessed such profuse diaphoresis as was presented in this case. During sleep the whole body was constantly bathed in a warm perspiration. I attributed this to the enormous doses of ipecac and zinc, and queried in my mind whether or not they exercised any influence in saving his life. When I had carefully ascertained how large a dose had been taken, I naturally supposed the mixture to be deficient in strength. I put one drachm into a draught for a lady, and she slept soundly for ten hours. Two days afterwards I was called to another man suffering like Mr. R. This man had not slept for thirty-six hours. Four doses given at intervals of fifteen minutes caused a natural profound sleep of eighteen hours' duration, followed by complete recovery. The amount taken by Mr. R., a trifle over *one hundred and sixty-five grains*, is the largest dose which was not fatal that I have ever heard mentioned or read of in any medical work in my library; and that there should not arise one single alarming symptom, such as diminished temperature, sighing respiration, a slow, feeble pulse, or pallor of the features, renders the case remarkable. It is needless to add that Mr. R. awoke entirely relieved from his trouble.

RECENT PROGRESS IN ANATOMY.¹

BY THOMAS DWIGHT, M. D.

Cartilage.—The apparent structurelessness of the ground substance of hyaline cartilage impresses one as an anomaly which is the more striking because cartilage is reckoned among the connective tissues, and presents in fibrous and elastic cartilage forms which are clearly transitional. During the last two or three years various attempts have been made to demonstrate some structure in the ground substance both by staining and dissociating agents. Silver has given some curious results, but none that can be considered above suspicion. On the other hand, the separating agents have shown that the ground substance can be transformed into bundles of fibres, and this result has been obtained by such various reagents that we cannot but admit that preëxisting elements are made visible. Ten per cent. salt solution, lime-water, baryta-water, and permanganate of potash have all been more or less efficient, and lately Tillmanns² has been particularly successful with *trypsin*, a digesting agent obtained from the pancreas and introduced into histology, we believe, by Kühne. Tillmanns has made thin sections of cartilage and treated them with trypsin for from one to three days, after which they were either examined at once or further treated with a solution of salt or of permanganate of potash. If after removal from the trypsin the fibrillar structure was not visible, a light tap on the covering glass was often sufficient to reveal it. As a rule nothing was to be seen of the cells, though their shriveled remains were at times observed. The ground substance consisted of bundles of delicate fibrillæ, which sometimes appeared to run parallel to one another, sometimes at right angles in a net-work, and again were arranged in lamellæ. According to this view the cells do not appear to be either in an intimate or very definite relation with the fibres; they are entirely analogous to the cells of connective tissue. Tillmanns believes that these fibres are held together by an interfibrillar connecting substance containing mucin, which is dissolved by this treatment. The essential difference between hyaline and fibro-cartilage is only in the greater quantity of this connecting substance in the former. It is plausible that during life this interfibrillar substance (*kittsubstanz*) is more nearly fluid than after death, and that it provides by absorption for the nutrition of the cartilage in which Tillmanns has failed to discover lymphatics.

Dr. Budge,³ without discussing the recent views of the structure of cartilage (indeed, the paper just referred to had not appeared), has en-

¹ Eleventh Semi-Annual Report.

² Archiv für Anatomie und Entwicklungsgeschichte. 1877. Heft 1.

³ Archiv für mikroskopische Anatomie, Band xiv. Heft 1.

deavored to demonstrate its lymphatics. He has met with remarkable success, and though we are inclined to differ from him in the interpretation of his results, we consider them all the more valuable that they seem to us perfectly harmonious with those of Tillmanns. Having removed a slice from the articular cartilage of a bone of a calf's foot in order to have a smooth surface, he introduced the bone into the end of an India-rubber tube which was fastened tightly around it. The cartilaginous end of the bone was inside the tube, which was partly filled with a solution of Prussian blue. This was subjected to moderate pressure for one or two days, after which sections were cut for examination. In those just below the surface the cells were more or less covered by the blue fluid, and from each of these spaces there went off into the ground substance a delicate net-work of blue lines, those from each centre uniting with others. Some time later he succeeded in injecting from the periosteal lymphatics the space around the cells at the border of ossification, but as he himself admits, these cells may be held to be in different relations from those of ordinary cartilage. He then tried a third method, namely, that of thrusting a small canula through the synovial membrane that still covered the articular cartilage of young animals, and injecting asphalt dissolved in either chloroform, benzole, or turpentine, the last giving the best results. These injections showed brown substance around the cells, and occasionally lines of dark granules in the hyaline ground substance. Budge labors to maintain that the minute canals are preëxisting structures, distended, it is true, by the injection, but in no way caused by it. "Thus," says he, "I think I have found the channels through which the nutrition of the cartilage is carried on. They are extremely minute canals which swell out at intervals into spaces to contain the cells. The cartilage cells are bathed in lymph, as those of connective tissue and bone are, and cartilage is traversed by lymph spaces like those tissues." We do not deny the general correctness of this conclusion, but we are not convinced that the channels through which the injection passed are properly to be called lymphatics; they probably are merely the spaces between the fibrillæ described by Tillmanns, and greater or longer continued pressure of the injecting fluid would probably show them in far greater numbers. The accuracy of Budge's results is beyond question; properly interpreted they give valuable support to Tillmanns' theory.

The Histology of the Alimentary Canal. — Biedermann¹ has undertaken some researches on the nature of the epithelium of the stomach which have led him to conclusions concerning the cells very different from those generally entertained. Histologists have long been familiar with the so-called goblet cells of the alimentary canal, which are commonly held to be cells that have burst, discharging the greater part of

¹ Sitzungsberichte der Akademie der Wissenschaften. Wien. Band lxxi. Heft 3, 4, and 5.

their contents. Whether or not they fill up again is undetermined. There has also been some dispute as to whether the free ends of the intact cells were to be considered opened or closed. This, of course, involves the old and unprofitable discussion of the existence of a cell membrane. That epithelial cells of the stomach and intestine ultimately have such a membrane is undoubted, but it is illogical to look on this membrane as an essential part of the cells when in reality it is due solely to changes in the outer part of the protoplasm. Biedermann has examined the epithelium of the stomach in a large number of vertebrate animals and in various ways. He states that the cells have side walls, but are open in front, that is, are not covered by membrane, but the orifice is filled by a stopper or plug of modified protoplasm. The protoplasm of the cell proper which lies at its base is granular and contains a nucleus and nucleolus; that of the plug is generally clear and often shows at the free edge a very delicate longitudinal striation, which Biedermann compares to that of the free border of the cells of the intestine. We cannot, however, admit that he has shown this striation to be independent of reagents. He proves that this plug is of a different nature from the remainder of the cell, as it is not affected by carmine, but is stained by an aqueous solution of aniline blue. Fine specimens of double staining may thus be obtained. In the stomach of a fasting animal the plugs project only slightly from the cells, but during digestion they increase in size. Biedermann denies, however, that the contents escape bodily from the cell, though he thinks mucus is secreted from the plug. The paper shows much careful work, but the conclusions are too much at variance with the usually received views to be accepted without further investigation.

Mr. Herbert Watney,¹ who has studied the minute anatomy of the alimentary, has also reached some novel conclusions. We regret that as yet only an abstract of his work has appeared. The most important feature of his paper is the description of a reticulum composed apparently both of fibres and small branched cells. This exists not only in the mucous layer but in the epithelial one running among the cells. In places it seems to form membranous investments surrounding the muscles of the mucous membrane, the blood-vessels, and lymphatics. In the lymphatics and veins the reticulum not only surrounds the vessels but enters their walls, penetrating even among the endothelial cells. Thus, as the author concludes, "the mucous membrane of the intestine is pervaded everywhere by a reticulum, similar to and continuous with that found in the lymphatic follicles of Peyer's patches. This reticulum is situated among all the other elements which are contained in its meshes. This is true of the epithelial cells, the muscle fibres, the cells of the parenchyma, the endothelial plates of the membrana

¹ Proceedings of the Royal Society of London. Vol. xxiv. No. 166.

propria, of the blood-vessels, and of the lymphatics." According to Watney, fat, when absorbed, travels by the reticulum. The only point in the chapter on the stomach which we need allude to is that the author, unlike Biedermann, finds the epithelial cells closed during inanition, and opened at their free ends during secretion.

(To be concluded.)

BOSTON SOCIETY OF MEDICAL SCIENCES.

REPORT OF PROCEEDINGS FROM JANUARY TO MAY, 1877.

D. F. LINCOLN, M. D., SECRETARY PRO TEM.

TUESDAY, January 30th. DR. WADSWORTH presented a patient, whose case was lately reported in the JOURNAL. A piece of skin from her fore-arm had been inserted into her lower eyelid to relieve the deformity of ectropion, resulting from a burn. When last seen, two months ago and four months after the operation, no hairs were observed on the implanted piece of skin; now there are some small ones nearly half an inch long. The cutaneous sensibility of the piece, tested with dividers, appeared much like that of the eyelid of the opposite side; the same was the case when one point of the dividers was placed on the old skin below the line of operation.

At Dr. Bowditch's suggestion the same test was then applied to the patient's fore-arm. The result showed that the implanted skin had not gained any acuteness of perception since its removal to the region of the eye; the skin of the fore-arm was originally possessed of unusual sensibility, the distance of tactile perception being only 13 mm., and that of the lower eyelid 12 mm. Upon the fore-arm and face of Dr. James the corresponding distances were found to be 30 mm. and 10 mm. respectively.

DR. BOWDITCH said that *muscular fibre* had lately been shown to possess the appearance of *heavy cross stripes*, alternately dark and light, the light being again divided by a very fine dark line into two zones. He was not aware that this appearance had ever been noted in *human* muscular tissue, but he had seen it in a case of epithelioma of the face, of which he presented a specimen by way of demonstration.

DR. DWIGHT said that the specimen was remarkable as resembling much more closely the muscles of an insect than those of a vertebrate. He had never seen an approach to such a division in a mammal.

DR. FITZ showed a specimen of *amyloid liver* stained with methyl-anilin combined with iodine, giving a violet color. The degenerated parts were colored carmine, the other parts violet or greenish. The specimen had been stained a month; its color was not deteriorated. The dye itself is a very dark purple.

TUESDAY, February 27th. DR. AMORY showed *photographs of certain microscopic specimens*, made by himself and his assistant, Mr. Hubbard; power 1500. The blood corpuscles of the sheep, the cow, and man were shown under a $\frac{1}{25}$ Tolles; that of the grouse under a $\frac{1}{2}$ Tolles; the former taken

with an amplifier, a condenser, and an eye-piece; the latter without an amplifier. There was also a negative from frog's blood, and a positive of the retina, of which a diagram drawn by Dr. Quincy from the same specimen was shown. The image is perfect in proportion to the fewness of the lenses.

Dr. Amory said that it was very desirable to photograph several kinds of blood in one plate or object. The micrometer drawn on the object-glass is also photographed, affording an instant test of size. The paper stretches slightly in pasting on.

TUESDAY, March 27th. DR. WARREN spoke of a specimen of round-celled sarcoma, infiltrating the skin and subcutaneous cellular tissue of the back, which he had shown to the society two years ago. Certain appearances had then called his attention to a peculiarity in structure, namely, a vertical arrangement of cells in rows perpendicular to the skin. He had since found a similar condition of things in other morbid growths.

He then read a paper,¹ of which the following is a brief abstract:—

The "*fat canal*" of the skin is a structure which he has not found described by any authority. It is not found readily in the hand; in the leg it is so short that it might easily be mistaken; it is best found in the thickened skin, as between the shoulder-blades.

A year ago, in examining a congenital naevus, he found blood-vessels passing into these canals. It was suggested that pus might come to the surface through these passages. To test the possibility of this he stretched the skin of a person dead within twenty-four hours across a cylinder, like the parchment of a drum; on the inner side of the skin an injection mass was placed for an hour and a half under pressure, to imitate the pressure of pus. The skin was then hardened and sections made. The vertical canals were found filled with the mass; and the same was the case, in a less perfect degree, when simple injection with a needle-syringe (*einstich*) was used. Perhaps the peculiar anatomical character of carbuncle might be accounted for by this structure. A carbuncle furnished by Dr. Gay shows a distribution of the pus which is analogous to that of the injection mass.

A vessel going from the base of the fatty duct to the base of the sudoriparous follicle, is generally found encircled by the blue mass.

The function of this structure may be that of furnishing nutriment to the hairs. It may also be mechanical, as the erector pili muscle is inserted at the base of the hair follicle and the apex of the fat-tube, and its pull is exerted in the direction of the length of the tube, so that its operation may be facilitated by the giving or yielding of the tube. One function of the erector pili is the pressure on the sebaceous gland, which usually lies in a position for ready compression.

Some of the specimens were from adults, one from a person aged fifty or sixty, one from an infant a few weeks old, and several from persons of fourteen or fifteen years. The injected specimen was from a very lean subject. There was quite a typical specimen from the breast of a female. Dr. Gay had once seen a well-developed carbuncle on the breast. Perhaps the peculiarity of anatomical distribution in certain pustular eruptions might be accounted for in this way.

¹ See JOURNAL for April 19, 1877.

DR. WHITE desired that those parts of the skin which are easily erected might be tested for comparison. Certain hairs in a thick corium can be erected in spite of its thickness; and further, the sebaceous follicles do not require for their nourishment a supply of *fat*. It would be well to examine pachydermata.

DR. FITZ suggested cases of dropsy of the skin as suitable for injection, and DR. CURTIS those of diffuse cellulitis or phlegmonous erysipelas.

DR. T. B. CURTIS exhibited *charts* designed to facilitate the comparison of different cities, or of the same city at different periods, in respect to *sanitary conditions*. The usual method of stating this is by giving the ratio of deaths to one thousand of population, or still better to every one thousand living at selected groups of ages. In the charts shown, the horizontal diameter of the paper was divided into lengths, proportionate to the number of population living at the different groups of ages; and each one of these lengths was carried up to a height proper to represent the mortality of that age considered by itself. Thus the base line of the age one to five would be broad and its height also great; the base of the age seventy to eighty narrow and its height very great indeed. The Boston chart presented was from the figures of 1855, that of London from 1841. The general death-rate of Boston was 25.4, that of London 24.2; but in Boston there is a very high rate in *infants*, and an excess both in breadth and height of column in *middle life*; in old age the columns were narrower and lower. Probably the old persons at that time were almost all Americans, of a proverbial longevity, it is true, but representing a class of persons whose value is not great, so that the Boston excess of mortality is compensated for only in figures. In 1875 Boston was approaching London in respect to the numbers and mortality at old ages.

DR. DRAPER showed a *cartographic tracing* of Boston *sanitary statistics*. The area of the city is divided into nineteen sanitary districts, of which the death-rates are calculated separately, and expressed in two curves. The rates are as follows:—

District.	Death-Rate per 1000.
Commonwealth Avenue	14.1.
Brighton	15.8.
Neck	16.3.
West Roxbury	17.5.
Hills of East Boston	17.6.
Beacon Hill	18.9.
Albany Railroad to Milford St.	19.4.
Lower East Boston	19.8.
Charlestown	20.
Mt. Pleasant and Mt. Warren	20.5.
Dorchester Heights and City Point	20.9.
Dorchester	21.2.
Washington Village	22.3.
Ruggles St.	22.3.
Whole City	23.4.
Leverett St.	23.3.
Old Mill Pond	23.9.
South Cove	26.1.
Lower South Boston	27.9.
North End	28.2.

DR. WADSWORTH remarked that the infants from the best districts were sent out of town in summer.

DR. CURTIS said that the chief causes for the seeming health of the South and West ends were the relatively small number of children and the large number of servants in the prime of life.

DR. WADSWORTH said these servants' deaths are credited to other districts.

DR. WARREN introduced MR. POND, who showed a *new sphygmograph*¹ invented by his father, Dr. Pond, of Rutland, Vt. The force of the arterial beat is transferred to a hollow glass rod, which floats in a tube of water, playing up and down. Its advantages consist in its readiness of application, its delicacy, its adaptation to a pen; it can be used with much facility after a little practice.

DR. DWIGHT exhibited a specimen of *spleen double-stained* after the Philadelphia manner, in a mixture of red and blue colors; the staining fluid is composed of carmine, borax, and water. As a rule the nuclei are colored red, the nucleoli and the fibrous tissue blue. He had not found it to work with certainty; it turned the nuclei of the nervous system blue at times.

DR. WADSWORTH confirmed this remark.

TUESDAY, April 24th. DR. DWIGHT presented *sections of the embryo of a cat*, $\frac{3}{4}$ '' long; they were forty-seven in number, and extended from the neck to the pelvic region. They were imbedded in cacao butter, which worked very well. The staining was done with Norris and Shakespeare's mixture, which is very uncertain, but stains the nuclei exceedingly well. In the specimens the cartilage contained the only well-differentiated form of cell.

DR. WOOD showed *crystals of iodide of lead*, indicating how much danger may attach to the use of "*marbleized iron*" vessels. He obtained them by boiling acetic acid of a strength less than that of vinegar in one of these vessels. Within a few years a fusible glaze, composed of silicates of sodium and calcium, silicic acid, and borax, had been invented for coating iron vessels. In forty grains of candy he had found five milligr. of chromate of lead; this substance is poisonous though insoluble in water. In two cases young children were killed by probable doses of $\frac{1}{2}$ and $\frac{1}{4}$ grains of chrome yellow, in twenty-four hours and four or five days respectively. It is probable that the fatal effect is due to the corrosive action of chromic acid, which is set free in the stomach, since chromate of lead is readily decomposed both by the stronger acids and by alkalies.

TUESDAY, May 15th. DR. HAY showed an *apparatus for holding the two trial-glasses*, spherical and cylindrical, before an astigmatic eye in measuring its refraction by testing its vision. He thought such a firm support, allowing the inclination of the cylindrical axis to be varied at pleasure, and either glass to be exchanged for another, offered certain advantages in respect of ease and precision.

DR. BOWDITCH showed *writing in white ink*² *on a dark paper*; also, in order to illustrate the merits of the invention, two cards, one printed in the

¹ See JOURNAL, June 28, 1877, page 770.

² Made with bismuth suspended in a mucilaginous fluid.

ordinary way, the other with white ink on black card. Several members expressed a preference for the white letters on the card. He remarked that one of the factors in fatigue from long use is probably the amount of light entering the eye, in eyes abnormally susceptible, though the presence of light may be advantageous to a healthy eye. Dr. Bowditch had shown the letters to a class of medical students, of whom twenty-four preferred the white on black ground, thirty-two black on white ground, and fifteen preferred neither.

DR. JEFFRIES would prefer black letters read through a blue glass.

DR. HAY remarked that the macula was constantly in use in reading, and perhaps might be tried more severely by a white letter.

WATER SUPPLY AND SEWERAGE IN ATLANTA.¹

By the United States census, the population of Atlanta was, in 1850, 2572; in 1860, 9554; and in 1870, 21,789. This rapid rate of growth has been due largely to the development of traffic and concentration of business of all kinds at the point of union of three important railroads; and consequently the laboring population of blacks and foreigners has increased in undue proportion, so that the accumulation of filth in badly constructed privies and cess-pools, and the pollution of small streams by kitchen refuse, slaughter-house waste, and offal emptied into them, became such a serious evil that a commission was appointed to recommend some remedy. The results of their investigations are embodied in their report just published.

The city is situated on high land, and within its limits arise five brooks, any one of which may be stepped over, and all of which flow away from the city in different directions. The natural drainage of the soil being therefore good, the only problem is to dispose of the filth in the best possible manner, avoiding all danger to health, and doing away with the offensive sights and smells now so common in most American and European cities. How far this danger and offensiveness are serious evils in Atlanta we are left to our own inferences to estimate, probably because of inefficient registration of vital statistics in Georgia; but it is well known that in the various epidemics of cholera and yellow fever this city has suffered very little as compared with those which are near the coast or rivers, a fact which may be attributed chiefly to its situation and good soil drainage; for the domestic water supply is not in every way satisfactory, being chiefly from wells, and a certain number of cases of both diseases are from time to time imported by the railroads without causing a general outbreak, in spite of the filth there.

The volume before us contains two series of reports to the commission: one, by Dr. Rauschenberg, in favor of complete sewerage and sewage irrigation, — and he *seems* to have the better of the argument; the other, by Dr. Goldsmith, advising privies, cess-pools, odorless excavators, and common carts. It appears that the five small streams are already fouled by various kinds of liquid refuse, for which proper sewers ought to be provided, and it is difficult

¹ *Proceedings and Reports of the Sanitary Commission of the City of Atlanta, Georgia*, H. H. Dickson, publisher. Atlanta. 1877. Pp. 195.

to see why such sewers should not at the same time carry away the human excrement, that is, if a suitable piece of land can be got for irrigation, a point which is not satisfactorily answered, although the topographical sketch of the place suggests a favorable location for such a farm, or perhaps farms. Of course, Dr. Rauschenberg does not propose sewage farming as a lucrative business, but he appears to be informed that it is steadily gaining in favor as the best means, under certain conditions, of remedying certain evils. Without sewage utilization he naturally considers the introduction of good sewerage impracticable, for the precipitating processes seem to him apparently not worth even a trial. He would increase, too, the present supply of two hundred thousand gallons of impure water daily to a quantity sufficient for the whole city, beside purifying it by filtration, etc.

Dr. Goldsmith, on the contrary, thinks an adequate water supply almost, if not quite, beyond their reach, holds that the population of the city is too scattered to render sewerage easy or important, regards the pollution of the small streams as a greater evil than retaining the filth near the houses, considers sewage farming a chimera, and quotes many authorities to sustain his general position. His recommendations are made the basis of a majority report to the city authorities, in which, by the way, an excellent suggestion is made that liquid sewage be disposed of on garden plots, if dry removal be adopted, although no reason is given why systematic irrigation on a larger scale would not be as practicable as this. Dr. Rauschenberg alone signs the minority report, although City Engineer McDaniel presents a concise and strong argument in favor of sewers, even if it becomes necessary to irrigate or even to use one of the precipitating processes in consequence.

Without a better knowledge of Atlanta itself, it is impossible for us to adjudicate the question; but, if the course of other cities is followed, water-closets will in time be introduced, at least for the better classes; sewers will come afterwards, and then the question of sewage disposal will come up after the years of stench and soil pollution which apparently might be prevented by following the city engineer's and Dr. Rauschenberg's advice, to say nothing of the money which might be saved. The report contains a page of opinions from persons at a distance in regard to the requirements of Atlanta, which is a curiosity of sanitary literature, as showing how easy it is to arbitrate without investigation. The work, on the whole, contains a mass of useful general information, and is calculated to bring an important subject in a striking way before communities sadly needing more of the practical appliances which promote health. Not the least of its merits is that it presents both sides of the question.

THE PHILADELPHIA PATHOLOGICAL SOCIETY.¹

IN the present volume are to be found the proceedings of this society for the year 1875-76. Although its size is not so great as that of its predecessors, it contains, as may readily be anticipated, a considerable amount of valuable material carefully digested and conveniently arranged.

¹ *Transactions of the Pathological Society of Philadelphia.* Volume Sixth. Edited by JAMES TYSON, M. D. 1877. Pp. 157.

That the members are not mere observers of fact is evident from their willingness not only to present theories but also to combat them, and the report of these discussions is not the least interesting part of the transactions.

As the value of such publications is largely dependent upon the facility with which they may be consulted, it may be mentioned that an index and table of contents are at the service of the seeker.

THE INTERNATIONAL OTOLOGICAL SOCIETY.¹

THIS report gives an account of the formation of the congress, and also comprises the communications read at its first meeting in New York, September, 1876.

The first part is taken up with an exhaustive report on the progress of otology by Drs. Burnett and Blake, such as has usually appeared in the transactions of the American Otological Society, and comprises a review of all the more important literature of the year. Then follow fifteen other articles on different subjects connected with the ear. As of special value in practice may be noticed Dr. Mathewson's method of drilling out exostoses of the external meatus by means of the dental drill, and Dr. Blake's article on the application of paper dressings to perforations of the membrana tympani.

Of the more strictly scientific articles the most important is that of Dr. Loewenberg, of Paris, on Gaseous Interchange in the Tympanic Cavity, which has since been read at the Paris Academy of Sciences. The whole volume is of interest and value to any one desirous of keeping up with the advance in the pathology and treatment of the ear.

THE ADMINISTRATION OF MEDICAL CHARITIES.

THE question of the administration of medical charities, owing to the increase in the number of such institutions, the additions of special departments, and the crowds of applicants for relief, has become so complex that we have as yet been able to see no method of reform which will commend itself strongly to all. The abuse of the out-patient departments and dispensaries which has obtained to so great an extent in London and in some of our large cities is no less glaring in Boston. A few years ago one of our leading physicians estimated that one hundred thousand persons received treatment free of expense in this city annually. Owing to the influx of foreigners, hard times, and the want of employment, that number has probably increased, and the dislike to calling on charitable institutions for relief, which was thought to be characteristic of the independent citizen, is a sentiment which no longer appears to prevail among the working classes to any great extent. How far this may have been brought about by the mal-administration and pauperizing tendency of our public charities it is difficult to say. We are satisfied, however, that a large proportion of these persons, from a third to a half perhaps, are able and

¹ *Report of the First Congress of the International Otological Society.* New York: D. Appleton & Co. Pp. 159.

might be willing, if they saw the way, to pay a moderate sum for medical treatment, but through ignorance and credulity they are more likely to fall a prey to the numerous charlatans with whom this community is infested than into the hands of those poor but honest young practitioners who naturally look to the humbler class of patients for their income and experience. Therefore they resort to the out-patient departments, oftentimes with the statement that they can pay "a little," but that they come because they hear that there are good doctors there and want an "opinion." One opinion, however, is not always satisfactory, and so they go the rounds. Thus, through the reputation of the hospital, the out-patient department is placed, to a certain extent, in competition with neighboring practitioners, much to the annoyance and somewhat to the loss of the latter. Then there are various private hospitals and dispensaries, which, by the offer of superior facilities for the treatment of special affections, make a bid for that class of cases, no doubt with great advantage to the patients as well as increased experience for the physicians in charge.

There is a great diversity of opinion with regard to the amount of injury which this state of things entails. Those who suffer or think they suffer in practice and pocket consider it as an unmitigated wrong. Those who have hospital appointments or private dispensaries are disposed, perhaps, to think it a necessary evil, while the clinical teachers, especially those who instruct in special branches, are dependent on these departments chiefly for material. The hospital trustees shrug their shoulders, console themselves with the vast amount of good done, or institute some quixotic method of remedy, and so it goes on.

With regard to reform, primarily, any movement which looks to the transfer of our surplus laboring population to a region where it can produce as well as consume should have the active coöperation of all our charitable organizations. It does not fall within our province, however, to discuss the feasibility of such projects, or the administrations of charities from a philanthropic point of view.

Under the present state of things some physicians are of the opinion that the resulting evil would be slight if the hospital out-patient departments and private dispensaries were closed, as an experiment at least, and that the Boston Dispensary, with its excellent organization, supplementing the large number of active young physicians who are waiting for practice, would insure proper medical and surgical treatment for most needy cases. The Dispensary is probably the least abused of our medical charities, but the number of patients treated is very large already.

Others think, on the contrary, that this would be a great injustice to many deserving objects of charity, especially to those suffering from diseases of the eye and ear and from surgical injuries, as well as to those who, though reduced to poverty, are still sensitive and have known better days.

It has been suggested that the medical treatment of the poor who are temporarily disabled and can be cared for in their own homes might be assumed by the city government. The Dispensary physicians, though in the service of a strictly private charity, are usually styled "city doctors" in the districts where they visit, and are not always exempt from the annoyances which

public office brings in the midst of a critical community, though they have none of the emoluments.

The provident dispensary system, conducted on the plan of mutual insurance, by which each member pays a small annual or monthly fee, the aggregate being sufficient for the payment of physicians' salaries, medicines for the sick, etc., appears to offer an opportunity for easy development and, under careful supervision, a suitable means of relieving the overcrowded hospitals. This system has been in operation to a limited extent in Boston for a number of years. We have not space to refer at length to the efforts made in this direction in London, New York, and elsewhere, but in Manchester, England, these associations have been most fully tried. The seven provident dispensaries in that city have a membership of about fourteen thousand persons, with an annual income of \$14,000. The decrease in the number of hospital patients during the last year was forty-one per cent. There are twenty-eight such dispensaries in London, and others in prospect.

We shall have more to say on this subject at some future time, as we believe that it is one of great importance to the hospitals and to the whole medical profession.

MEDICAL NOTES.

— The first regular meeting of the Suffolk District Medical Society will be held on September 29th.

— We reprint from *The Lancet* the following letter about the "homœopathic schism" from Dr. Wyld, vice-president of the British Homœopathic Society, with the editor's comments thereon: —

TO THE EDITOR OF THE LANCET:

SIR, — As a sequel to my letter in your journal of the 2d of June, I shall be obliged if you can insert the following form of resolution; and this I more particularly desire because my first letter emanated almost entirely from myself, but the present form of resolution has been signed by every one of my school to whom I have *personally* applied, and the names attached are those of our leaders.

The resolution is purely abstract, and the only four gentlemen of your school to whom I have shown it at once said, "If this represents fairly the views of your body there can exist no *logical* objection to our extending to you the freest professional intercourse."

Such being the case, and knowing that you guide the profession, I trust you will assist in establishing peace on this basis, believing, as I do, that it comprehends the entire quarrel, and must, if acted upon, end the schismatical element in question.

GEORGE WYLD, M. D.

GREAT CUMBERLAND PLACE, August 13, 1877.

(Form of resolution intended to be signed by both parties.)

We, the undersigned, believing medicine to be a progressive art and science, hold that it is competent for any qualified medical man to adopt any theory or practice which he believes to be best for his patients. Therefore the adoption of any theory or practice should not exclude any qualified med-

ical man from the freest professional intercourse, provided he does not trade on a distinctive name nor unprofessionally advertise his mode of practice.

(Signed) Frederick F. Quin, Edward Hamilton, M. D., Hugh Cameron, R. E. Dudgeon, M. D. Ed., George Wyld, M. D. Ed., William Boyes, M. D., Richard Hughes, L. R. C. P. Ed., R. Douglas Hole, M. D., F. Black, M. D. Ed., J. Hamilton Mackenzie, M. D., D. C. Laurie, M. D. Ed., D. Matheson, L. R. C. P. Ed., T. L. Marsden, M. D., T. Engall, M. R. C. S. Eng., Alfred Pope, M. D., R. Dyce Brown, M. D.

No *logical* objection could possibly exist to extending free professional intercourse to any properly qualified practitioner who can conscientiously and unreservedly subscribe his name to the above resolution; but it is *logically* inconsistent that such a resolution should emanate from a section of men who are, and long have been, the advocates and champions of a "system" of medicine which has always been judged unreasonable, absurd, and devoid of any scientific foundation, and which is now evidently dying of sheer inanition. If the signers of this resolution had the courage of their opinions, and could bring themselves boldly to give up a profession of the *homœopathic* system, and to cease all connection with *homœopathic* societies, hospitals, journals, and other publications, they would experience no difficulty in obtaining free professional intercourse, because they would no longer be homœopathists; but they deceive themselves if they imagine that homœopathy can ever be recognized as a part of scientific and rational medicine. — ED. L.

— *The London Medical Examiner* reports the case of a young man who died of hydrophobia in London on Friday, July 13th. The deceased, when walking about three months before along the Westminster Bridge road, was bitten in the hand by a dog in a rabid condition. He went at once to St. Thomas's Hospital, where the wound was cauterized and other measures taken. The wound, it appears, never healed thoroughly, and on the previous Sunday symptoms of hydrophobia appeared. He rapidly grew worse, and died on Friday in great agony. *The Medical Times and Gazette* reports a case sent to them by Dr. Gunning, of India. A man forty years old was bitten in the knee four months before by a dog supposed to have been mad. Up to three days prior to his seeing him he had enjoyed usual health. He died forty-eight hours after the spasms of the glottis began.

The Lancet remarks: It is an undoubted fact that hydrophobia has been increasingly fatal in England in recent years. The annual death-rate from this disease to a million living, which, according to the registrar-general's reports, did not exceed 0.3 in the five years 1860–64, rose successively to 0.9 and 1.8 in the two succeeding quinquennials, and further increased to 2.0 in 1875, which is the latest year for which the returns are complete. In London six deaths from hydrophobia were registered both in 1875 and 1876; and in the first twenty-nine weeks of this year, ending on July 21st, nine had already been recorded, of which two were registered (in Bartholomew's and Guy's Hospitals) during the week ending July 21st.

— The son of the Prince of Wales is convalescent from an attack of typhoid fever. *The British Medical Journal* makes the following allusions to the case:—

The fever from which the heir presumptive is now suffering — the third of his line who has thus been afflicted within a period of sixteen years — was, it is believed, contracted at Sandringham; and this is a circumstance which will, of course, require careful local sanitary investigation. Typhoid fever being essentially a preventable fever, due to causes which, by perfect sanitary arrangements, may be held at bay, it is, we believe, proposed that Dr. Seaton, the head of the medical department of the Local Government Board, shall make a searching examination of the water-supply and other sanitary arrangements at Sandringham. Since the serious illness from typhoid fever of H. R. H. the Prince of Wales, the water-supply at Sandringham has been remodeled at considerable cost and trouble. It is stated, however, that, at the time of the recent visit of the prince and his family for some days to Norfolk, the works connected with the newly arranged water-supply were out of order, and recourse was had for a while to the source whence the water was drawn prior to the prince's purchase of the estate. The importance of a scientific investigation into the facts can hardly be overrated. It is not a little remarkable, and certainly a most painful coincidence, that the heir presumptive should thus early fall under the scourge of the same preventive zymotic disease which has so seriously visited the royal house of late years; and it is highly necessary that the precise meaning should be ascertained of so shocking a succession of sanitary mishaps.

— We copy the following extract from Peters's General History of Connecticut, originally issued in 1781, which has just been reprinted by the Appletons, with notes and additions added thereto, substantiating the author's statements: —

“Though Litchfield is (1781) the youngest county of Connecticut, yet in 1766 it set an example to the rest worthy of imitation. The province had always been greatly pestered by a generation of men called ‘quacks,’ who, with a few Indian nostrums, a lancet, a glister-pipe, rhubarb, treacle-water mixed with Roman bombast of *vena cava* and *vena porta*, attacked fevers, nervous disorders, and broken bones, and, by the grace of perseverance, subdued Nature, and helped their patients to a passage to the world of spirits before they were ready. The surgeons and physicians who were not quacks formed themselves into a society for the encouragement of literature and a regular and wholesome practice. But their laudable endeavors were discountenanced by the General Assembly, who refused to comply with their solicitations for a charter because the quacks and the people said, ‘If the charter were granted the learned men would become too rich by a monopoly, as they did in England.’ The answer to this question was, ‘Would it not be better to permit a monopoly to preserve the health and lives of the people than to suffer quacks to kill them and ruin the province?’ The reply proved decisive in that fanatical assembly, namely: ‘No medicine can be serviceable without the blessing of God. The quacks never administer any physic without the prayers of the minister.’ One doctor proposed the trial of a dose of arsenic — whether it would not kill any one who would take it, though twenty ministers should pray against it. He was called a profane man, the petition was rejected, and quackery remains (?) triumphant.”

— *The Medical Record* contains the statement of Dr. Caldwell, of Iowa, to the effect that in 1862 he was present at the exhumation of a body which had been buried two years before. The coffin had sprung open at the joints, and the hair protruded through the openings. On opening the coffin the hair of the head was found to measure eighteen inches, the whiskers eight inches, and the hair on the breast five to six inches. The man had been shaved before being buried. In 1847 a similar circumstance occurred in Mercer County, Pa. In digging a grave the workmen came upon the skeleton of a man that had been buried ten years. The hair was as firm as during life, and had grown to a length of eleven or twelve inches.

MASSACHUSETTS GENERAL HOSPITAL.

SURGICAL CASES OF DR. GAY.

[REPORTED BY C. W. COOPER.]

Nævus. — A child five months old entered the hospital April 20th. At birth there was no sign of a nævus, but at the age of two months a small red spot appeared on the extremity of the nose, which grew quite rapidly into an erectile tumor. On entrance there was a bluish tumor as large as a filbert, not pulsating, reducible in size by pressure. Three days later the child was etherized, and the tumor transfixed in all directions with a large needle at white heat. All the vessels were obliterated in this way, and in a week the mass had the appearance of a large scab, which soon came away, leaving the nose in very good condition.

Injury to the Head. — The patient, a brakeman, while standing upon the top of a freight-car, was struck by a bridge beneath which the train was passing, and thrown to the ground. When brought to the hospital, two hours later, he could not be roused sufficiently to answer questions; breathing labored; eyes firmly closed; pulse 90, and strong. There were several contusions and ecchymoses on the face; eyelids much swollen and discolored; nasal bones fractured; the right pupil was dilated, and did not react to light. There was an incised wound six inches long over the frontal bone, semicircular in shape, running up into the hair an inch or more. Upon raising the flap the periosteum was found to be torn off from almost all the bone exposed, and near the centre there was a fracture of the outer table of the skull, following a curved line, about an inch and a half long. There was no displacement at the seat of fracture, but some hair was firmly held in the crack. The patient was etherized, and a small portion of the bone along the edges of the fracture was removed with the gouge and mallet to get rid of the hair lodged there; the edges of the wound were then brought together by the interrupted suture, and a cold-water dressing was applied. The patient was then placed in a darkened room, and absolute quiet was enjoined. On the next day he could be made with some difficulty to answer questions, and was rational. For two weeks the case progressed favorably; the wound united by first intention with the exception of a small space in the centre, where, by the retraction of the soft parts, the denuded surface of the frontal bone was exposed. The patient, though dull and

stupid in the extreme, was quiet and rational, and his pulse and temperature had come down to the normal point after a few days of surgical fever. At the beginning of the third week, however, he became even more dull than before, his temperature rose to 103° F., and he complained of general *malaise* and stiffness in the back of his neck and in his jaws. The record of the next week is as follows :—

December 1st. Stiffness in the muscles of the lower jaw ; the mouth cannot be opened to its full extent. Sixty grains of chloral were given during the day.

December 2d. Mouth nearly closed by trismus ; stiffness in the back of neck more marked. Eighty grains of chloral were given during the day.

December 3d. Eighty grains of chloral given ; no change.

December 4th. Eighty grains of chloral given ; no change.

December 5th. Eighty grains of chloral given ; trismus slightly lessened.

December 6th. Ninety grains of chloral given ; rigidity in neck and jaw much diminished.

December 7th. Eighty grains of chloral given ; spasm of the muscles much relaxed.

December 8th. Eighty grains of chloral given ; the patient can open his mouth quite well ; the stiffness of the neck is nearly gone.

From this time the chloral was omitted, and the symptoms soon entirely disappeared, not to return.

A few days later, however, another complication arose : the patient had two severe chills in the forenoon, and his temperature went up to 104.5° , the pulse became rapid, and there was severe headache ; more chills followed on the next day, with a temperature of 105° ; and two days later a blush appeared about the wound, showing this fresh complication to be erysipelas. The blush spread quite rapidly over the head and face, and the constitutional symptoms continued severe. For an entire month the patient suffered from this attack of erysipelas, his temperature at evening ranging from 101° to 103° , and delirium being a symptom in the early stage. Quinia and stimulants were freely given, but his strength failed fast under the violence of the disease ; an abscess which formed in the course of the attack tended still farther to reduce his strength. However, at the end of the month this last complication had exhausted its force, and the patient made a rapid and complete recovery ; appetite and strength were regained, and, after the exfoliation of a small piece of the frontal bone, the wound healed, and he was discharged. Some months after he was found to be in good health, and again in the employ of the railroad company, the only apparent bad result of his accident being a slight impairment of memory.

Excision of Inferior Maxilla.—Mrs. M. entered the hospital April 16th. Two years before, a tumor as large as a peach had been removed from the lower jaw ; the tumor proved to be a cystic growth upon a solid base. At that time the whole mass was excised, and a considerable amount of the bone upon which its base rested was cut away with the chisel. Notwithstanding the thorough-

ness of this operation, a few months after her recovery the tumor began to grow again in the same place; it increased in size very slowly but steadily, without constant pain, though at long intervals sharp, lancinating pains were felt. At the time of admission to the hospital this recurrent tumor was as large as a small orange, on the left side of the lower jaw, firmly attached to the bone, extending from the second bicuspid tooth to a point a short distance up on the ramus; the surface was oval, the mass firm; there was no tenderness and no fluctuation. On examination inside the mouth, the teeth of the inferior maxilla were found to be absent behind the second bicuspid on the diseased side; the space thus exposed presented a cavity with hard, everted edges and an ulcerated surface discharging pus.

Five days after entrance, the patient being etherized, an incision was made, following the contour of the jaw, from a point just below the ear to the commissure of the lips. The surface of the bone was carefully dissected clear without opening into the cavity of the mouth; an incisor tooth was then drawn, and the maxilla divided with a saw at that point; the bone was grasped with lion forceps and drawn outwards, the surgeon cautiously dividing all the soft parts that held it in position on the inside, keeping the knife close to the bone. The jaw was forcibly depressed, and the coronoid process cleared of the insertion of the temporal muscle; the condyle was twisted out, and the ligamentous fibres thus put upon the stretch were divided by the knife; the bone was then freed from the remaining attachments and removed; hæmorrhage was profuse, many ligatures being required. The edges of the wound through the cheek were united by the interrupted suture, and compresses wet in a solution of carbolic acid were applied. The progress of the case after operation was most favorable. In six days all the stitches had been taken away, and there was union by first intention throughout the line of incision, with a free discharge of pus into the mouth. In fourteen days the patient was sitting up, with scarcely a trace of the operation except the scar, and a few days later was discharged, well. The growth when examined under the microscope proved to be carcinoma.

THE SUMMER RESORTS AND SANITARIA OF THE WEST.

MESSRS. EDITORS, — Although the average Chicagoan is sure that his own city is the best summer resort of the West, a large number of our people spend a part or the whole of every summer out of town. The West is not lacking in summering places. What the East offers in sea-coast and mountains we make up in lakes and woods and hills. Some of our resorts, for the real pleasure they furnish, are little less delightful than your Eastern watering-places, but we have no such fashionable and much-frequented points — excluding Colorado and the Rocky Mountains — as the East can number by the dozen. Most of our resorts, such as they are, are sought for simple relaxation from care and city life; a few of them, and by a limited number of people, for health and mineral water.

A number of towns in Wisconsin by the side of some of the many beautiful

lakes of which that State can boast are very pleasant for modest and sensible people. Geneva Lake, Oconomowoc, Green Lake, Madison, Fox Lake, Dunt's Lake, and other places are now visited by large numbers annually, and they serve the purpose of summer resorts more wholesomely than any fashionable watering-place on earth. Spring Lake, Michigan, and several other points attract quite a number and entertain them in a quiet way.

The greatest sanitarium of the West is the mountain region of Colorado, which your readers are sufficiently familiar with.

The most thronged health resort we have this side the Rocky Mountains is Hot Springs, Arkansas. The springs at this place number over fifty, — all natural and situated near each other in a narrow valley, — and the water as it issues from the ground has a temperature of 90° to 150° F., the several springs differing within this limit. There are many bath-houses in the little town of four thousand inhabitants built over and around the springs, and crowds of visitors come here to be healed. Syphilis in some of its forms furnishes the largest proportion of cases, probably not less than three quarters, while chronic rheumatism and rheumatic affections of the joints make a majority of the remaining quarter. A few paralytic and other nervous cases are among the number.

The water is used almost exclusively for bathing; nobody attributes any particular virtue to it when taken internally.

No very accurate analysis of this water has been made. It contains less than ten grains of solid matter to the United States gallon, and most of this is lime salts and silica. There is a small quantity of carbonic acid gas, and there are said to be traces of iodine and bromine, but this is questionable.

The only conclusion at which one can arrive, then, is that the benefit invalids derive from the springs is wholly due to the warmth of the water used in bathing and the thoroughness and frequency of the baths. Probably the same patients would be equally benefited in any warm climate by the same number of baths in common well-water at an equally high temperature, provided the element of faith were added to the treatment, as well as the free dosing with iodine and mercury that nearly all these patients get — the syphilitic ones especially — at the hands of the local profession, to whom most visiting invalids go for advice.

A considerable company of hay-fever victims migrate each season to the neighborhood of the Straits of Mackinaw and the south shore of Lake Superior to stay until the time that brings cough, sneezing, lachrymation, and distraction has passed by. There is a large territory in this region wholly out of the range and reach of this complaint, especially if patients will go there before the annual attack begins. As visitors may find here some hunting and abundant trout, bass, and other fishing, and boating without limit, they have a pleasure resort as well as a sanitarium. Indeed, for real recreation for dwellers in cities and for wholesome outdoor sport few places can be more inviting than some points in this hay-fever-escape region, and each summer now finds here many hundred sojourners purely for recreation, besides those who seek relief from their sneezings.

It is not an uncommon practice for parties hereabout to go to these northern

shores with tents and all the paraphernalia of camping, and spend a month in midsummer in this delightful way.

Lake Michigan has many little bays along its northern shore, and is fed directly or indirectly by many trout brooks, so that fine opportunity is offered for this kind of summering.

Dr. Beard, it seems, gives the preference to Marquette, Michigan, as a Western place of escape from hay fever, but through those who have found relief at Mackinaw the latter region will strongly contest the claim.

The West is so fortunate as to have a large number of mineral springs. Analysis shows that the waters of some of them differ not very widely from some of the famous springs of the East and of Europe. It is difficult to get at the real merit and value there is in much of this mineral water. Certain it is that the water of some of the springs greatly advertised and lauded, and much frequented by invalids, is, when analyzed, not materially unlike the water of thousands of our hard-water farm wells.

In the aggregate, some thousands of invalids visit the springs each summer, and not a few in winter.

As may be seen from the inclosed table of analyses, few of these waters have saline constituents, so far as the chemists have discovered, that would suggest any therapeutical result further than that of a cathartic, diuretic, or antacid. Indeed, to account for the improvement in the average patient who visits our springs with benefit, it is yet to be shown that it is necessary to suppose any other influences than these.

A few of the waters contain iron in quantity sufficient for slight tonic effect, but most of the tonic influence manifested in the patients may fairly be attributed to the increased assimilation due to the diuretic and laxative action, and to the rest, recreation, and expectation. Some of the alteratives appear in the waters of a few of the springs, but their quantity is too insignificant for any effect that could be noticeable.

The springs at Waukesha, Wisconsin (Bethesda), attract a large number of invalids, some of whom are benefited, some injured, and some returned without effect. The water has a small fixed residue, and its table of analysis looks quite tame, yet its taste is smooth, and the quantity one can drink without a sense of distention or gastric oppression is remarkable; hence the diuretic effect is good. There seems to be proof that cases of diabetes mellitus have recovered under the free use of this water. The springs of Waukesha are natural, and have been known since the settlement of the country by the white man. Waukesha is a small place, but has fair hotel accommodations. The Bethesda water is industriously advertised, and large quantities are sold throughout the country.

Sparta, Wisconsin, offers to visitors not only springs strong in iron, — to the extent of reddening the banks of the streams that carry off their overflow. — but some very fine scenery. The town is situated in a beautiful and fertile valley surrounded by high bluffs, and a short distance to the north is a pile of rock called Castle Rock, six hundred feet above the river, from which the bluffs of Minnesota may be seen, twenty or more miles distant. The place has four thousand inhabitants, and good hotels. There is trout

fishing in the brook near by. The mineral water comes from artesian wells, of which there are a dozen or more, and the water is free for shipment as well as for use. Very little is, however, sent away, owing doubtless to the absence of any monopoly in the enterprise. The wells are about three hundred feet deep. The water is said to be magnetic as it flows from the wells, — a condition due probably to some physical effect of the process of delivering it through the long metallic tubing of the wells. There are several bathing establishments in town, of which one, at least, has facilities for the Turkish bath.

The water of Sheboygan, Wisconsin, is growing into substantial favor as a diuretic and laxative. It comes from an artesian well sunk in the public park in 1875, which is nearly fifteen hundred feet deep. There are several hundred invalids visiting this spring the present season. Two thousand gallons of the water are being shipped away per month. Sheboygan is a beautiful lake town, and it may soon be quite a resort.

Spring Lake, Michigan, has a mineral spring — magnetic — highly charged with salts, and has attracted, since its discovery several years ago, a large number of visitors annually. The scenery about the place is fine, the boating and fishing excellent, and the communication with Chicago by boat in the summer so easy that to these conditions must be attributed much of the popularity of the place as a summer resort. The water is magnetic as it flows from the well. The same thing may be said of the three or four springs at Eaton Rapids, Michigan. Strictly, however, the water is not itself magnetic, but it has the property or power of inducing a magnetic state in pieces of steel immersed in it.

The springs at both Eaton Rapids and Spring Lake are artesian wells, and are of an average depth of perhaps one hundred and sixty feet.

These towns have two thousand to three thousand inhabitants each, and are both blessed with hotels and bathing-houses.

The Glen Flora, and other springs at Waukegan, Illinois, the "Powell," and the fine "Macallister" springs, as well as the Siloam Spring of Milwaukee, are all natural springs. They have attracted large attention. The water from several of them is shipped away in considerable quantities. Waukegan is a small, quiet, and pleasant town on the lake shore. Several of our Western springs that have not been much noticed we may expect to hear of soon, judging from the chemist's work, if the specimens furnished him were not spurious. One of these is at Des Moines, Iowa. Its water is bitter, being highly charged with sulphate of soda, and for the small total of solid matter must be quite a laxative. Another spring is at Colfax, Iowa. Its water has similar properties to that at Des Moines. The spring is an artesian well three hundred feet deep, sunk in 1875 in prospecting for coal. Its water is said to be magnetic, and to contain much carbonic acid gas. Quite a number of invalids from the vicinity have visited it already.

Our Chicago chemist, James R. Blaney, who has lately analyzed the water of a spring at Libertyville, near this place, — the analysis of which is given in the table, — speaks of the water as remarkably smooth to the taste and delightful to drink, and as having a distinct sulphurous odor.

CHICAGO, *August 15, 1877.*

TABLE GIVING AN ANALYSIS OF MINERAL SPRINGS OF THE NORTHWEST.

	Waukeshah, Bethesda Spring.	Waukegan, Glen Flora Spring.	Waukegan, Powell's Spring.	Waukegan, Macallister's Spring, No. 5.	Waukegan, Macallister's Spring, No. 4.	Sparta. ¹	Sheboygan.	Millwaukee, Siloam Spring.	Eaton Rapids, Mich.	Vaughan House Spring.	Eaton Rapids, Mich.	Stirling Spring.	Spring Lake, Mich.	Des Moines, Iowa, Bennett Spring.	Colfax, Iowa.	Blue Island, near Chicago.	Libertyville, Ill. Copeland's Spring.	Ottawa Water, Dr. Hoad's Spring.	Waukeeshah, Fountain Spring, M. Lathin.	Geneva Lake, Wis. Sheridan Springs, D. G. Whiting.
Chemist.	Chandler.	Blaney.	Blaney.	Blaney.	Blaney.	Hirsch.	Chandler.	Bode.	Kidzie.	Kidzie.	Jackson.	Wheeler.	Blaney.	Blaney.	Blaney.	Blaney.	Blaney.	Blaney.	Blaney.	Blaney.
Temperature.							60° F.		51° F.	51° F.	51° F.	52° F.	52° F.		52° F.					
One U. S. Gallon has in grains as follows:—																				
Alumina.....	0.122	0.151	.230	.215	.100		0.1283						Trace.	.131	.230	.130	.030	.378	.097	.055
Ammonia.....							Trace.						0.0158		.232	.230	Trace.			
Bicarbonate Sodium...							0.5044						6.009	.140			3.597			
Bicarb. Iron.....	0.042	0.115	15.537	12.737	15.511		13.6585	12.59	1.70	29.88	27.83	8.022	0.1808	8.022			4.611	3.748	13.778	12.551
" Lime	17.022	15.568						7.557	27.83	5.85	6.88	15.148	0.004	15.148	20.052	39.75				
" Magnes.....	12.388	11.091											0.0547							
" Mangan.....							0.1742													
" Potass.....																				
" Sodium.....	1.206	6.447						0.892	1.66	16.31	7.58		0.0537							
Bromide Magnes.....													2.17							
" Sodium.....							0.1873													
Carb. Ammonia.....						0.00210														
" Baryta.....						0.0050														
" Iron.....			.136	.091	.162	14.33501											.185	.048	.109	
" Lime.....						0.40202														
" Lithia.....						0.02400														
" Magnes.....			17.276	6.537	10.48	4.03101											18.304	9.135	10.284	

DISLOCATIONS OF THE HIP.

MESSRS. EDITORS, — In the report of the proceedings of the Connecticut River Valley Medical Society, as given in the *JOURNAL* of August 23, 1877, Dr. Allen, of White River Junction, reports a “new method” for the reduction of dislocations of the hip-joint. Now this so-called “new method” seems to be but a clumsy imitation of that method the principles and practice of which were first given to the world by Dr. H. J. Bigelow, of Boston, in a work on the Hip-Joint, and which is now the recognized method not only in this country but in Europe among all the better surgeons. All due credit to Dr. Allen, but if he will take the trouble to read Dr. Bigelow’s work I think he will be convinced that his “new method” is indeed but an imperfect repetition of that therein described.

HARVARD.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING AUGUST 25, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	596	28.96	27.46
Philadelphia	850,856	328	20.05	22.88
Brooklyn	527,830	296	29.16	24.31
Chicago	420,000	187	23.15	20.41
Boston	363,940	166	23.72	23.39
Providence	103,000	34	17.16	18.34
Worcester	52,977	28	27.48	22.00
Lowell	53,678	19	18.41	22.21
Cambridge	51,572	29	29.24	20.54
Fall River	50,372	33	34.07	22.04
Lawrence	37,626	17	23.49	23.32
Lynn	34,524	12	18.07	21.37
Springfield	32,976	10	15.77	19.69
Salem	26,739	15	29.17	23.57

BOOKS AND PAMPHLETS RECEIVED. — Some General Ideas concerning Medical Reform. By David Hunt, M. D. Boston: A. Williams & Co. New York: Wm. Wood & Co. 1877.

The Sanitarian for September. (For sale by A. Williams & Co.)

Traitement rationnel des Plaies. Méthode d'Aération. Rapport de la Commission spéciale du Traitement des Plaies à la Société de Chirurgie de Moscow, 10 Janvier, 1877. Moscow. 1877.

Report on Obstetrics. By Edward W. Jenks, M. D. (Reprinted from the *Detroit Medical Journal*, September, 1877.)

The Relations existing between Eczema and Psoriasis. By Robert Campbell, M. D. (Reprinted from the *Archives of Dermatology*, July, 1877.)

Morphia in Childbirth. By W. T. Lusk, M. D., Professor of Obstetrics in Bellevue Hospital Medical College. New York: William Wood & Co. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, SEPTEMBER 13, 1877. — NO. II.

CASE OF ANOSMIA FOLLOWING A BLOW ON THE OCCIPUT.¹

BY F. I. KNIGHT, M. D.

Mr. X., forty-two years of age, a tea-dealer, was referred to me by Dr. D. F. Lincoln in the latter part of January of the present year. He complained of loss of smell and perception of flavor by taste, which was an unusual hardship to him as it entirely prevented tea-tasting.

He belonged to a healthy family, was strong when a young man, and had always enjoyed good health since, except that at the age of twenty-four he had had necrosis of the left femur, for which no accident or general disease could be assigned as a cause. He had no history of syphilis. Three years ago, when on a periodical spree, he was thrown out of a buggy, and struck on the back of his head. He was unconscious for twelve hours. Blood flowed freely from the nose, and some flowed from one ear. For several days he suffered great pain in this ear. Since then he has had no pain or other cerebral symptoms, and the hearing has seemed perfect.

Two or three weeks after the accident, on recovering from a cold in the head, he first noticed complete loss of smell. His condition had been such since the accident, however, that it is very doubtful whether he would have missed the sense of smell earlier. He had not been subject to chronic nasal catarrh nor particularly liable to the acute form of this disease. On testing the sense of smell he could recognize nothing held to the nose, not even assafoetida or oil of peppermint introduced into the nostril. On testing the sense of taste he could recognize sweet, sour, salt, and bitter tastes, but nothing more, except when aided by the tactile sense, which was normal. He recognized no flavors. He could not distinguish different kinds of meat, nor recognize differences in wines except in their sweetness or pungency. I gave him a piece of raw onion, and after carefully chewing it he said it was onion, and thought he got some flavor from it, but I consider it probable that his recognition of this was due to tactile sensation. I did not think at the moment to try him with the expressed juice simply. Like other anosmic patients he had preferences in food, probably derived from

¹ Read at the meeting of the Boston Society for Medical Observation, June 18th.

memory, but he had no dislike of new dishes, and continued the habit of smoking. On examination of the nose there was found some deviation of the septum towards the right. There was perhaps increased redness of the mucous membrane of the septum and middle turbinated bones as seen anteriorly, but no marked swelling. Posterior rhinoscopy showed some swelling of the inferior turbinated bones, which, strangely enough, subsided considerably under the passage of a probe. No crusts or even secretions other than normal were visible. The patient stated that he was not troubled with any nasal discharge, but was expecting it, because he had been told that his loss of smell was due to catarrh. I examined the nose again in May, and found much the same condition, except that the mucous membrane of the septum and turbinated bones was rather more swollen, but not nearly so much so as we see every day in patients whose sense of smell is very acute.

What was the probable cause of the anosmia in this case?

The sense of smell and distinction of flavors in eating are generally admitted to be due to irritation of the olfactory nerves. These are distributed on the upper half of the septum, the superior turbinated bones, part of the middle turbinated bones, and the under surface of the cribriform plate of the ethmoid. Exactly how this irritation is accomplished is by no means settled.

The sense of smell (we include, also, now and hereafter when we use this word, the perception of flavor by taste) may be interfered with, in one who has previously enjoyed it, in many ways. In the first place it seems to be necessary that there should be not only an open passage from the object held before the nose or in the mouth to the olfactory region, but that there should be a draught through from the nose to the mouth, or *vice versa*. If we hold the nose anteriorly with the thumb and finger, we cannot recognize the flavor of anything (even of an onion) put into the mouth, although, of course, the passage from the throat to the olfactory region remains open. If the posterior nares are completely closed by the adhesion of the soft palate to the posterior wall of the pharynx, the sense of smell is lost, but is restored as soon as an opening is made in the soft palate.¹

If, by chance, in any case the sense of smell is present while the perception of flavor by taste is absent, or *vice versa*, it is probably because a draught to the olfactory region can be made in one direction and not in the other. Küss, in his *Physiology*, while the only author whom I recall who speaks decidedly on the necessity of draught, says that freedom of expiration does not suffice for taste. But I think this opinion is not strictly true. If we take a little wine, for example, into the mouth, close the nose, swallow, and then open the nose during

¹ See case of Mr. Coulson, *Lancet*, November 15, 1862, p. 529, and unpublished case operated on by Dr. Porter at the Massachusetts General Hospital.

expiration, we can recognize the bouquet of the wine quite distinctly. In the same manner we can appreciate the aroma of coffee. We undoubtedly obtain a much finer perception by opening the mouth and allowing a perfectly free circulation of air.

It is unnecessary for me to go into details of what may cause obstruction to draught, anteriorly or posteriorly, in the nose, such as catarrhal thickenings, other results of inflammatory action, polypi, etc. Dr. Ogle¹ says that anosmia on the affected side is observed in every well-marked case of facial paralysis, and accounts for it by the paralysis of the nasal muscles, which prevents, on the one hand, active dilatation of the nostrils, which is necessary for one method of smelling, and on the other, lateral compression, which is necessary for the other. In a case of facial paralysis seen recently by me I could detect no affection of the sense of smell. (The disturbance of taste proper in facial paralysis, as is well known, is referred to the communication of the facial nerve with the fifth pair by means of the chorda tympani.)

In the second place the mucous membrane and special nerve fibres of the olfactory region must be in a healthy condition. Excess of moisture or dryness is supposed to interfere very decidedly with the sense of smell. According to Longet,² section or morbid alteration of the fifth pair causes congestion and a fungous consistency of the nasal mucous membrane, which is liable to bleed at the slightest touch. Continued inhalation of irritants, as of sulphuric ether,³ may cause anosmia.

Notta⁴ reports cases in which he assumes the existence of atrophy of the olfactory nerves, and others which he calls cases of *essential* anosmia, not being able to find or conjecture any lesion.

Thirdly, the absence of pigment in the olfactory region may perhaps affect the sense of smell.⁵

Fourthly, cerebral disease may destroy the sense of smell, and blows on the head have been followed by anosmia with or without other symptoms.

In our case there does not appear to have been any obstruction to the passage of odorous particles to the olfactory region, nor does there appear any evidence of such a condition of the mucous membrane nor of terminal olfactory nerve fibres as would completely deprive the patient of the sense of smell. It does not seem at all likely that one acute attack of coryza, such as he happened to have about this time, would do it. There was no evidence of cerebral disease, but he had received a severe blow on the head, which has caused anosmia in a considerable number of recorded cases.

¹ Medico-Chirurgical Transactions, vol. liii. p. 268.

² Traité de Physiologie, Paris, 1860, vol. ii. p. 486.

³ See Virchow's Archiv, Bd. xli. p. 290. 1867.

⁴ Archives générales de Médecine, April, 1870.

⁵ See case of Hutchinson, American Journal of Medical Sciences, January, 1852, p. 146, and the very interesting physiological speculations of Dr. Ogle (l. c.) based upon it.

Sir Benjamin Brodie ¹ mentions four cases of injury of the head followed by complete loss of smell. In none of them was there reason to suppose fracture of the base of the skull. In one of them the occiput is described as the seat of the injury, and in this there was no improvement in smell at the end of five or six months. In the other three the seat of injury is not stated, but one of them recovered completely at the end of a year, and in the others there was no improvement at the end of one month and many years respectively.

Dr. J. Hughlings Jackson ² reports the case of a gentleman, fifty years of age, who fell from a horse, probably in consequence of a blow from a robber. A very large quantity of blood was lost from the right ear, and there were two wounds, one just above the occipital ridge, the other under the chin. "All the worst symptoms of concussion resulted." Smell and taste never returned. Fourteen years later there was loss of speech and hemiplegia on the left side.

Dr. Ogle ³ reports four cases:—

CASE I. A gentleman had fallen from his horse twenty-seven years before, striking his head heavily against the ground, on the left side and in the posterior part. Anosmia had existed since the accident. He had been liable to headache, and said that "his nerves were not so strong as they had been."

CASE II. Mr. — was knocked down by a cab two years previous to the report, and fell backwards, striking his occiput heavily against the road. For a minute he was stunned, but managed to get home, where he was laid up for a time, suffering from the local injuries and from severe headache. All this passed off, and he was left with no other permanent symptom than total loss of smell.

CASE III. C. L. was admitted to the hospital in February. He had been knocked about the head in a drunken row the preceding Christmas, and ever since had suffered from strange sensations in the head, and from occasional attacks of nose-bleeding. He had been somewhat deaf since the injury to his head, and had completely lost his sense of smell. After a short stay in the hospital serious head symptoms declared themselves, and he had to be removed. He was said to have eventually become insane. The history of the symptoms immediately following the accident are not given, but the deafness and the subsequent cerebral symptoms point to possible fracture of the base at that time.

CASE IV. The fourth case of Dr. Ogle is merely mentioned, in a foot-note added after the original paper was prepared, as one of permanent anosmia following a blow on the occiput.

Notta ⁴ reports the following cases:—

¹ Medico-Chirurgical Transactions, vol. xiv. p. 364 et. seq., and p. 421.

² London Hospital Reports, vol. i., p. 470.

³ Loc. cit.

⁴ Loc. cit.

(1.) *Traumatic Anosmia without Fracture of the Skull ; Preservation of the Taste.* — M. D., twenty-nine years of age, fell from his horse, striking upon the top of his head. He was unconscious for about an hour. He recovered after venesection. In his fall he received no wound nor excoriation. There was considerable tumefaction on the top of the head, which disappeared in six or seven days. Two or three days after the accident he noticed some little clots of dried blood in his mustache, but he had had no epistaxis, no serous nor bloody discharge from the ears. There was no disturbance of vision or hearing, no weakness in the limbs ; in short, after seven days of rest he resumed his regular duties. Some days after, he noticed the loss of smell, which before had been very acute. He could not distinguish ammonia from acetic acid, nor ether from chloroform. This sense did not return. "Taste was apparently perfect." He distinguished wines of different vintages, the flavor of dishes, such as vanilla, orange, truffles, cheeses, etc., but if he stopped the nose the appreciation of flavors was lost, and only that of sweet, sour, salt, and bitter remained. In this case it seems as if the nerve filaments accessible through the anterior nares were alone impaired, while those accessible posteriorly remained intact.

(2.) *Traumatic Anosmia without Fracture of the Skull.* — A gentleman was thrown from a carriage and struck his head violently ; was stunned, but did not lose consciousness. As he got up, a few drops of blood flowed from the nose, but he was able to walk home at once, a distance of three kilometres (nearly two miles). On the following days he had no headache nor any cerebral symptom, no serous discharge from the nose or ears, and if it had not been for numerous ecchymoses on the face, which prevented his going out, he could have resumed his ordinary duties. But he had lost the sense of smell entirely, and also that of taste as far as recognition of flavor was concerned. He continued the habit of snuff-taking, not because he perceived any odor of tobacco, but on account of the irritation and sneezing produced by it.

(3.) *Traumatic Anosmia ; Fracture of the Skull.* — A miner, thirty-five years old, was struck by a large cask upon the top of his head from a height of seven metres. The wound was considerable. He could not say whether there had been bleeding from the nose or ears. He was unconscious for twenty days, and on recovery found that he had lost the sense of hearing in the right ear and the sense of smell in both nostrils. A year after the accident he appeared well in every respect, excepting that when he tried to work, to strike with a pick, or wheel a barrow, he experienced a painful sensation in the head ; if he persisted he soon became dizzy and fell to the ground ; he was subject to buzzing in the right ear, and frequently had giddiness and cephalalgia. The

sense of smell was completely lost. Notta considered that the loss of consciousness for twenty days, the deafness, and loss of smell, taken in connection with the cerebral symptoms just mentioned, authorized him to assume the existence of fracture of the base of the skull.

(4.) *Traumatic Anosmia ; Fracture of the Skull ; Return of Smell and Taste at the End of Three Months.* — A man, forty years of age, received, three years before, a blow on his right ear from the butt of a musket. He lay on the ground unconscious for several hours. There was a copious flow of blood from the right ear, followed by a serous discharge which lasted several days. There was no paralysis of the limbs. Leeches were applied behind the ears for several days, and calomel was administered internally. He recovered, but smell and taste returned only at the end of three months. The hearing, which had been completely destroyed in the right ear, was also restored.

(5.) *Traumatic Anosmia ; Fracture of the Skull ; Return of Smell and Taste at the End of Six Months.* — A man, forty-eight years old, fell violently on his right ear. He was unconscious twenty days. At first blood, then serum, flowed from the ear. There was no paralysis of the limbs. He was bled generally and locally, and calomel was administered internally. He recovered, but smell and taste returned only at the end of six months.

(6.) *Traumatic Anosmia ; Fracture of the Skull ; Incomplete Restoration of Smell and Taste at the End of Four Months.* — A man, fifty-seven years of age, fell from a horse, and was unconscious fifteen hours. He was not sure whether there had been bleeding from the ears or nose, but his body and head were covered with blood, and there was facial paralysis on the right side. Treated by venesection and purgatives he recovered at the end of three weeks, but had lost the sense of smell and taste. At the end of four months this sense returned to a certain extent, but was by no means acute. The facial paralysis remained, as well as a dizzy feeling on lying down. At the end of eight months more he remained in the same condition.

Dr. Hamilton¹ reports the case of a druggist who fell backward, while conversing with a friend, striking the occiput. He was slightly stunned, but soon revived. There was pain, however, during the night, and much swelling at the back of the head. He was purged, and cups and cold were applied locally. After five or six days of suffering from pain in the occipital and frontal regions, with intolerance of light, complete recovery took place, except that the sense of smell was gone. This condition persisted at the end of eighteen months. The cause of the fall was doubtful, and it was uncertain whether the anosmia was due to the condition which caused the fall, or to the blow itself, or to

¹ Transactions of the College of Physicians of Philadelphia. American Journal of the Medical Sciences, April, 1871.

following morbid changes. The patient had been previously healthy, and was not subject to fainting, but had been overtasked mentally and physically during several previous months.

Molliere¹ reports two cases: one, a syphilitic, after a blow on the back of the head, began to suffer impairment of sight, vertigo, and complete loss of smell; in the other the forehead was the part struck, and there was a fracture of the frontal bone. The account of these cases in Canstatt is very brief, but both of the patients are said to have retained the ability to distinguish wines by their bouquet.

Dr. Legg² reports a case of diminished and perverted smell after a blow on the head. A man attempted to get out at the back of a cart in motion, and fell on his head. He pointed to the right posterior parietal region as the seat of injury. He was insensible for half an hour; blood flowed from the left ear; he noticed diminution of smell and taste only at the expiration of three months, when he resumed work. Everything he ate had the flavor of gas or paraffine. Meat was particularly disagreeable to him; fish and rice less so. In seeming contradiction, the statement is made that he did not taste bread at all. He did not smell buchu, but assafoetida being held under his nose he said it was a bad smell.

Mr. W. Spencer Watson³ mentions a case of anosmia and deafness of one ear from a bicycle accident, in which the skull was struck behind the ear. The details are not given, but the patient is stated to have been completely insensible for an hour or two after the blow.

Ferrier⁴ records the case of a patient who had lost both smell and the sense of taste proper in consequence of a fall on the top of his head from a cart into the paved street. With the exception of anosmia and ageusia, all evil effects of the injury had long disappeared. Under the influence of treatment (what treatment is not stated) taste improved, so that the patient could readily distinguish between sweet and bitter, and even between the flavors of beef and mutton. Smell, however, remained absolutely annihilated, a fact which shows, Ferrier claims, that the return of taste was not due to a coincident improvement in the sense of smell.

Reviewing these cases, we find that there are twenty-two in all, including my own: that nine of these had commonly recognized symptoms of fracture of the base of the skull; one had fracture of the frontal bone; the remaining twelve had not such symptoms. We find that in four of the nine cases with symptoms of fracture of the base the blow had been on the occiput; in two on the right ear; and in one on the vertex. In six of the twelve cases with no symptoms of fracture the

¹ Lyon Médicale, 1871. Canstatt's Jahresbericht, 1871, vol. ii. p. 83.

² Lancet, November 8, 1873.

³ Diseases of the Nose and its Accessory Cavities, London, 1875, page 342.

⁴ Functions of the Brain, New York, 1876, page 190.

blow was on the occiput, the seat was not stated in four, and was the vertex in two.

It is evident that the lesion in these cases might be either of the brain itself, at the origin of the olfactories, or of the nerves themselves. The cases in which anosmia has been the only symptom have naturally excited the most speculation. Dr. Ogle thinks that in them there is only rupture of the olfactory nerves as they pass from the bulb through the holes in the ethmoid. In explanation of the frequency of the occiput as the seat of injury in these cases Dr. Ogle quotes Mr. Hilton, who points out¹ that the anterior brain rests directly upon the bones of the skull, and is not separated from them, as is the case elsewhere, by the interposition of cerebro-spinal fluid. Hilton says: "When the blow is received at the posterior part of the skull, the whole mass of the brain being driven forward by the momentum given to it by the blow upon the bones of the skull, the under surface of the anterior part of the brain rubs over the depressed and elevated surfaces which constitute the anatomical features of the internal base of the skull."

Mr. Hewett² says: "In looking into these cases it will be found that the loss of smell followed such an injury as might lead to the anterior lobes of the brain being driven against the bones and bruised. And, tightly bound down, in the greater part of their course, to the brain by the arachnoid membrane, the olfactory nerves may in this form of injury occasionally be more or less bruised or pressed upon by an extravasation of blood."

Ferrier,³ commenting on his own case, which I have quoted, says it is in the highest degree improbable that a blow on the head could cause a simultaneous injury or rupture of such widely separated nerves as the olfactory, the gustatory, and the glosso-pharyngeal, and that while he regards the cause of the symptoms to be injury by counter-stroke, he attributes them to "lesion of the lower part of the temporo-sphenoidal lobe, where the centres of taste and smell are localized in immediate relation to each other."

In this connection the association of anosmia and aphasia pointed out by Hughlings Jackson and Dr. Ogle is interesting. The lesion of aphasia is pretty generally admitted, I believe, to be near the fissure of Sylvius, to the floor of which, at least, the external root of the olfactory is traced. M. Serres⁴ gives an opinion based upon nineteen autopsies of paralytics, that lesion of the external root of the olfactory is much more likely to be found than lesion of the internal in cases of anosmia.

It seems not improbable that the lesion is different in different cases: hæmorrhage, perhaps, in the region of the bulbs in those patients who

¹ Lectures on Rest and Pain, page 25.

² Holmes's System of Surgery, vol. ii., page 171.

³ Op. cit.

⁴ Anat. Comp. du Cerveau, i. 295, Paris, 1824.

ultimately recover, and fracture of the ethmoid or rupture of the nerves in those in whom no improvement takes place. In case of unilateral anosmia, or in case some other function is involved in a patient with bilateral anosmia, as of taste proper in Dr. Ferrier's case, we may suspect a symmetrical injury of the brain itself.

Jobert de Lamballe¹ gives a case of a patient with anosmia from a bullet wound, in whom on autopsy the ethmoid was found fractured and the olfactory nerves torn.

In my patient, who, it will be remembered, had other signs of fracture, I think there was probably fracture of the ethmoid.

In regard to prognosis, we find that of the ten cases with other symptoms of fracture there was recovery in two, partial recovery in one, and no improvement in seven; of the twelve cases with no other symptoms of fracture there was complete recovery in one case only, partial recovery in one, and no improvement in ten.

For treatment, electricity might at the proper time be of service to those who are capable of recovery.

ON THE TENACITY OF LIFE OF TAPE-WORMS AND THEIR LARVAL FORMS IN MAN AND ANIMALS.²

BY PROF. EDWARD PERRONCITO. †

IN order to decide the important question of the tenacity of life of tape-worms and their larval forms, I began, in 1871, a long series of experiments and observations on *cysticercus cellulosæ*,³ which were published about the same time as some similar researches of Dr. Lewis in Calcutta.

Towards the end of 1874, Pellizzari,⁴ of Florence, questioned the accuracy of my investigations published two years earlier (in 1872), and agreed with Dr. Lewis⁵ in stating that the cysticercus dies upon exposure to a temperature of 55° C. for five minutes.

He agreed also with Cobbold,⁶ who thought a temperature of 60° C. sufficient to kill cysticerci. But the indications of death he relied upon

¹ Plaies d'Armes à Feu, p. 139, Paris, 1833.

² Professor Perroncito sent me the manuscript for this article. I have made a few alterations in it to render the English expressions of the author more simple. I believe his meaning has been nowhere changed. — CHARLES S. MINOT.

³ E. Perroncito. Sulla morte del *Cysticercus cellulosæ* delle Carni del Madale, 17 Apr., 1872. Annali della R. Accademia d'Agricoltura. Volume xv., 1872.

⁴ G. Pellizzari. Quad. Journ. Med., Florence, 1874.

⁵ A Report on the Bladder Worms found in Beef and Pork, by E. R. Lewis, M. D. (being Appendix B, Sanitary Commission with the Government of India, Calcutta, 1872.) London Medical Record, November, 1874.

⁶ Cobbold. Manuale dei Parassiti intorno degli Animali domestici. Translated from the English by Dr. Counnays, Florence, 1872.

want that certainty and precision necessary to bring conviction in matters of science, thus justifying some mistrust on the part of the more scrupulous among those devoted to biological pursuits. This opinion led to several precautionary measures being taken on the part of sanitary inspectors, to avoid danger from infected pork.

My conclusions, drawn from the experiments made in 1871-72, were still adhered to in the larger Italian cities, and approved of by the superior Board of Health in 1873.

I then expressed a doubt whether the cysticercus dies at a temperature lower than 100° C. Some persons misconstrued me, maintaining that I had contradicted my own work. I could not positively assert that they died at 80° - 100° C., for I noticed only the alterations of color and resistance of the tissues which occurred in cysticerci exposed to various temperatures. In order to contribute to the solution of this difficult question I made further experiments. My conclusion was that although we could not be sure of the cysticercus dying at 80° - 100° C., it was nevertheless certain that they perished at 125° or 130° C. Not wishing to prejudice the question I never said that they did not die at 80° - 100° C., but simply stated that we could not be certain of their death at that temperature.

A larger number of new experiments has enabled me to discover exactly the lowest temperature requisite to insure the death of cysticerci and other animal parasites.

To carry on these investigations I employed Schulze's heating table, with neutral tincture of carmine and hæmatoxiline. I further made some experiments by breeding parasites.

My method depends (*a*) on the fact that a cysticercus keeps moving actively about, when the temperature of the fluid in which it is placed is gradually raised. If one of these worms freshly prepared be placed in pure water or in a weak solution of common salt, which is then gradually heated up to the temperature of warm-blooded animals, or still higher, the parasite twists and turns around with considerable activity, using its suckers and proboscis as organs of locomotion; (*b*) on the greater readiness with which dead tissues are stained by coloring fluids than are the same tissues during life.

Experiments were made to ascertain the value of the two means of diagnosis above described.

If a cysticercus, freshly taken from a pig, be prepared in the manner just mentioned, placed on a Schulze's warming slide and examined under the microscope, we find that it begins to move in most cases when the temperature reaches 30° or 35° C. As the temperature rises still higher the activity of the animal increases, especially while passing from 38° to 49° C. As the temperature gradually increases the movements of cysticercus cellulosa cease occasionally at 45° - 46° C., some-

times at 47° C., more frequently at 48° C., and out of over fifty experiments in only one case did the cysticercus keep up its motions beyond 49°, ceasing them, however, at 50° C.

As soon as its movements end, the parasite is dead, and cannot be restored by again lowering the temperature to that of the surrounding air and raising it a second time. At none of the intermediate temperatures does the cysticercus show the least signs of life.

But a more convincing proof of the death of the parasite is obtained from the use of staining fluids which color the *dead* but not the living tissues of tape-worms.

A living cysticercus, with its head everted, may be put in neutral tincture of carmine or in hæmatoxiline for from two to twelve hours or more without being colored; the staining begins only when the cysticercus dies. Therefore, if the cysticercus is first brought to a temperature high enough to kill it, that is, 50° C., and then left in one of the above-mentioned tinctures, it colors intensely in less than three quarters of an hour. The staining begins at the head and proceeds towards the extremity of the caudal cyst. The head colors more deeply and rapidly than the neck, on account of the calcareous bodies which are less numerous in the remaining parts of the body.

If a cysticercus from the pig, or of *tænia mediocanellata* (from calves), be brought gradually to a temperature of 50° C., and then swallowed alone or with a piece of butter or a crumb of bread, it never produces a tænia. Some courageous students who volunteered to try the experiment did so without evil result.

My investigations were repeated upon other forms of helminths. The results were always the same, so that I was able to ascertain that, —

(1.) *Cysticercus cellulosæ* of the pig sometimes dies at 45° C., but more frequently at 47° C., and ordinarily at 48° C. It can seldom survive a temperature of 49° C., and quite rarely endures for a few moments that of 50° C. Exposure to this temperature for more than a minute leads to the death of the cysticercus.

(2.) A *cysticercus cellulosæ* extracted by Professor Raymond from the conjunctiva of a child's eye died at a temperature between 46° and 49° C.

(3.) A *cysticercus* of *tænia mediocanellata* sometimes dies at a temperature of 44° C., and cannot endure a temperature above 46° C.

(4.) A *cysticercus pitiformis* of the rabbit, like the *cellulosæ*, sometimes dies at 46°–49° C.; it generally perishes at 47° or 48° C.

(5.) A *cysticercus tenuicollis* died at 49° C.

(6.) Scolices of the *cænurus cerebralis* of a sheep died at 42° C.

(7.) Scolices of the cysts of *echinococcus polymorphus* generally die between 47° and 48° C., and in no case have those with which I have experimented endured 50° C.

(8.) One specimen of *tænia cucumenna* died at 43° C.; another at 49° C.

(9.) A few individuals of *tænia serrata* from the dog died at 50° C.

(10.) Of two individuals of *tænia perfoliata* of the horse, one died at 49° C., and the other at 50° C.

(11.) The embryos of the *filaria microstoma* of the horse became quiet at 46°–47° C. and all died at 48° C.

(12.) The embryos of *filaria megastoma* from the horse's stomach died at 47° C.

(13.) The *trichina spiralis*, either free or encysted, as found by several experiments, always died at 48° C.¹

(14.) The embryos of the *strongylus filaria* of the sheep had no motion at 50° C.

(15.) Probstmayer's viviparous oxyurids, the infusoria of the colon and cæcum of the solipedes, and the psorosperms of the liver of the rabbit had no motion.

Each experiment lasted about 10'. In the first 6' or 8' the temperature rose from about 9° C., to from 45° to 46° C. In one minute more it passed from 46° to 50° C.

These experiments have a great scientific and practical value, as showing, on the one hand, the highest temperature which cysticercus, trichina and other similar parasites can endure. The tenacity of life generally attributed to the helminths and larvæ of like forms is therefore much less than usually supposed.

On the other hand, these experiments show the harmlessness of flesh infested by these parasites when it has once been raised to a temperature above 50° C., although it may remain there not longer than five minutes.²

In a piece of a leg of pork, twenty-nine days after the animal had been slaughtered, cysticerci were found alive in all parts not yet putrefied. On the other hand, the cysts of *tænia mediocanellata* were all found dead in the dried muscles of a calf that had been slaughtered fourteen days before. I have, however, ascertained that the putrefaction of the muscles is fatal to the larval forms of two different species of platyelmia.

TURIN, May, 1877.

¹ E. Perroncito.

² Annali della Reale Accademia d'Agricoltura, 1876.

RECENT PROGRESS IN ANATOMY.¹

BY THOMAS DWIGHT, M. D.

Proportions of the Spinal Column and the Spinal Cord. — Dr. Michel Ravenel² has published some researches on the length of the spinal column that are valuable as being evidently more trustworthy than many frequently quoted. Indeed, much of the work hitherto done on this important subject has been of a very loose kind. We, for instance, often do not know when an author speaks of the length of the spinal column whether he means the length in a straight line or following the curves. Dr. Ravenel removed the arches of the vertebrae by dividing the pedicles, and then, placing the column in as natural a position as possible, he measured accurately along both the anterior and posterior surfaces. His researches did not include the sacrum. In separating the regions one from another the intermediate fibro-cartilages were reckoned with the upper one; thus the lumbar region includes the cartilage on top of the sacrum. The only serious objection to be made to the paper is that the number of specimens examined, eleven of each sex, is rather small to justify many positive conclusions. Some important differences between the front and the back of the column are, however, shown beyond question. The first table gives the absolute length of the anterior and posterior surfaces of the different regions in men, and the second table the same in women. Taking the averages of these tables we may construct the following one, which shows the difference at a glance: —

MEN.				
	Neck.	Back.	Loins.	Total.
Ant.	13.3 cm. 5.2 in.	28 cm.=10.8 in.	18.2 cm.=7.15 in.	59.5 cm.=23.2 in.
Post.	12.8 cm.=4.9 in.	28.9 cm.=11.3 in.	15.7 cm.=6.1 in.	57.4 cm.=22.5 in.
WOMEN.				
Ant.	12 cm.=4.7 in.	26 cm.=10.2 in.	17.8 cm.=6.9 in.	55.8 cm.=21.9 in.
Post.	11.5 cm.=4.5 in.	26.7 cm.=10.4 in.	12.4 cm.=4.8 in.	50.6 cm.=19.8 in.

This shows, as might be expected, that the convex portions, that is, the anterior cervical and lumbar and the posterior dorsal regions, are respectively longer than the corresponding concave portions; but it is to be noted that the difference is most marked in the lumbar region, and far more so in the female than in the male. In both sexes the posterior side of the column is the shorter, but owing to the lumbar region the difference is greater in the female. Tables, which may be condensed as follows, are then given to show the proportions of the different regions, the anterior surface being arbitrarily valued 100.

MEN.				
	Neck.	Back.	Loins.	Total.
Ant.	22.4	47.1	30.5	100
Post.	21.	48.6	26.4	96.5
WOMEN.				
Ant.	21.5	46.6	31.9	100
Post.	20.6	47.8	22.2	90.6

¹ Concluded from page 273.² Zeitschrift für Anatomie und Entwicklungsgeschichte, Band ii., Heft 5 and 6.

This shows very clearly the greater difference between the front and the back of the lumbar region in the female, which after all is only saying that the lumbar curvature is greater. For comparison with the above we copy from Ravenel the proportions of the posterior surface when its total is called 100.

MEN.				
Post.	Neck.	Back.	Loins.	Total.
	22.3	50.3	27.3	100
WOMEN.				
Post.	22.7	52.4	24.8	100

By this we see that the cervical region presents but little variation, and that the dorsal and lumbar regions are in inverse ratio to each other.

It must be confessed that the answer to the question, What proportion of the column is occupied by each region? is not obtained from these tables, owing to the difference that they show between the front and back, and this point has not received due attention from the author. We cannot err seriously if we take the average percentage of the front and back of each region; doing this with the proportions of the anterior surface as presented in the table before the last and those of the posterior in the last one, we get the following results:—

MEN.				
Neck.	Back.	Loins.	Total.	
22.3	48.7	28.9	100	
WOMEN.				
22.1	49.5	28.3	100	

These figures give results we were hardly prepared for, showing that there are but trifling differences between the sexes, and that, contrary to the general view, the lumbar region is slightly shorter in proportion in the female than in the male. Taken with the other tables they illustrate an even more important truth, namely, that in using figures the greatest strictness is necessary in stating the manner of their application, without which every one can prove what he pleases.

Ravenel has also studied the length of the spinal cord and the proportion of its different parts. He makes the cord begin at the upper border of the atlas at the point of origin of the first spinal nerve, and makes the lower border of the last nerve of each division serve as a boundary. Thus the lower border of the twelfth dorsal nerve separates the dorsal and lumbar regions, and we have a pelvic region below the latter. The average of eleven measurements of each sex is as follows:—

	Cervical.	Dorsal.	Lumbar.	Pelvic.	Total.
Men.	9.9 cm.=3.8 in.	26.2 cm. 10.2 in.	5.1 cm. 2 in.	3.6 cm =1.4 in.	44.8 cm.=17.6 in.
Women.	9.6 cm.=3.7 in.	22.9 cm.= 8.9 in.	5.7 cm.=2.2 in.	3.1 cm.=1.2 in.	41.3 cm.=16.2 in.

The result is rather curious. The total length is greater in the male, but the advantage is due to the difference in the dorsal region; indeed, the lumbar portion of the cord is absolutely longer in the female. The

next table gives the proportion of the several regions to the total length of the cord.

	Cervical.	Dorsal.	Lumbar.	Pelvic.	Total.
Men.	22.1	58.6	11.4	7.9	100
Women.	23.2	55.4	13.7	7.6	100

The large proportion of the dorsal region in both sexes, but especially in the male, is very striking. The reader by referring to former tables will notice that these proportions of the cord differ considerably from those of the column, but that they differ least from those of the posterior surface.

The proportionate length of the cord to the column must, of course, vary greatly according to the side of the latter it is compared with. Thus Fehst¹ has stated that in man it is as 1 to 1.62, and in woman as 1 to 1.56; but unless we know how he measured the columns these results are utterly worthless. Ravenel finds that if the anterior length of the column be called 100 the cord will be 75.3 in man and 74 in woman; but that if the posterior length be taken as 100 the cord in man equals 78 and in woman 81.6. Thus in one case the male cord is relatively longer, and in the other the female. If instead of comparing the cord with either the anterior or posterior length of the column we compare it with the average of these, we find that the cord of the female is relatively longer than that of the male; thus in man the cord is to the column (above the sacrum) as 76.7 is to 100, and in woman as 77.6 is to 100.

Myology of the Face and Neck. — In May, 1875, Professor Henke² published a paper on the muscles of the lips, which, though it contained little essentially new, is worthy of notice because it gives a classification of the muscles running into the lips, and does away with many names, making the arrangement appear much more simple than previous methods. According to Henke there is on each side of the upper and lower lips both a quadratus and triangularis. Those of the lower lip are classical; those of the upper are formed by grouping together muscles usually separated. The quadratus of the upper lip consists of the levator labii superioris and of the levator labii alæque nasi. The upper triangularis consists essentially of the levator anguli oris joined by a varying number of fibres from the zygomatici and in the same way by fibres from the platysma (constituting the risorius). The square muscles of each lip are internal to the triangular ones, but the superior quadratus is more superficially situated than the triangularis, while the reverse is the case below the mouth. The chief point to be noticed is, however, that the quadrati, both the lower and the upper, end simply in the lip which they first reach, but that the triangulares which strike the ends of the mouth are continued into the lip farthest from their

¹ Centralblatt für die medicinischen Wissenschaften, 1874, No. 47.

² Zeitschrift für Anatomie und Entwicklungsgeschichte, Band i.

origin. Thus the right triangularis superior is continued into the right side of the lower lip, and the left triangularis inferior into the left side of the upper lip. The former of these, together with the fourth part of the orbicularis oris, with which it blends, is called by Henke the circumflexus labii inferioris; and the latter circumflexus labii superioris. The action of these various muscles, contracting either separately or together, may easily be inferred. Of course this view in no way contradicts the accepted one of the partial fusion of the buccinator and orbicularis.

Professor Welcker,¹ among other myological observations, gives his views as to the inferior origin of the platysma, which he claims is usually either vaguely or incorrectly described. Many eminent authorities state that it arises from the fascia of the pectoralis, but according to Welcker it arises from the skin in an irregular line rather below the clavicle. His method of demonstrating this is very conclusive. He makes a cut below the jaw down to the platysma, and carries other cuts down on to the chest on each side of the muscle. He then dissects up the skin from the platysma, working downwards till at the point mentioned they can no longer be separated, and it is evident that the muscular fibres are firmly attached to the corium. He then carries the lateral lines some inches further, unites their lower ends, and begins to dissect upwards, separating the skin from the subcutaneous tissue, and when the entire flap is raised he finds himself underneath (behind) the platysma. It might be suggested that an indirect confirmation of this view is to be found in the study of the anomalous musculus sternalis. Karl Bardeleben gives a table of one hundred and twenty cases of its occurrence, among which are several in which it was connected with the pectoralis or its fascia, and no less than fifty-seven in which it joined the sterno-mastoid, but in no single case did it run into the platysma.

Froriep² records three interesting cases of anomalous arrangement of the platysma. In two of them the platysma of one side was in two layers, and in all of them it crossed the middle line and ended in the triangularis inferior of the opposite side. Other dissections have shown this author that the prolongation of the platysma into the opposite triangularis is not very rare, and he is inclined to consider the risorius not as a continuation of the platysma, but as a representative or rudiment of a superficial layer of the latter muscle, which he twice found largely developed, and which exists in some of the lower animals.

¹ In the same volume.

² Archiv für Anatomie und Entwicklungsgeschichte, 1877, Heft 1.

PROCEEDINGS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

E. WIGGLESWORTH, M. D., REPORTER.

THE first annual meeting of the American Dermatological Association was held at Niagara upon the 4th, 5th, and 6th of September, 1877, the president, Dr. J. C. White, of Boston, in the chair, and members being present from Baltimore, Boston, Chicago, Detroit, Louisville, New York, Philadelphia, and St. Louis. Papers were also received from Arkansas and from London, England. One valued member, Dr. Hand, of St. Paul, Minn., had been removed by death since the organization of the association.

SEPTEMBER 4, 1877. The business meeting being concluded, the annual address was read by the president, showing the objects of the association, the need for its existence, and the duties devolving upon its members. A sketch was given of the rapid progress of dermatology in America during the last quarter of a century and an eloquent tribute paid to the labors and teachings of Professor Hebra, of Vienna. The objects of the association are : I. The affording of opportunities for a more intimate personal acquaintance among American dermatologists, thus obviating the tendency to harsh judgments upon necessary differences through ignorance of personalities. II. To average the varying views upon ætiology and treatment by oral discussion in each other's presence, and thus to elaborate a common basis for work. III. To ascertain by observant study and by the collation of statistical data the peculiarities of cutaneous diseases at present existing in our country, the establishment of a standing committee for this purpose being desirable, and to investigate the new diseases, leprosy, etc., which, though now rare, are yet to be expected here in time. IV. The establishment of a common nomenclature in dermatology. V. To foster the interests of dermatology in its general relations with the medical profession and with the public. The objects of the association show the need of its existence. There are peculiar difficulties and very inappropriate rewards in this specialty of medicine. The medical profession has yet to learn that diseases of the skin are like other diseases, all being subject to the same laws and all affecting organs composed of similar tissues. Physicians either lack interest in these maladies, or, regarding them as incurable, leave them to chance ; or, again, pandering to popular prejudice, will talk of "humors" and of diseases "coming out" or "striking in," thus frightening the patients into resignation, or will undertake unjustifiably the treatment of maladies of which they are ignorant, merely because they anticipate less evil from mismanagement than they would in the case of maladies of the eye or ear, for instance. Even physicians who consult a specialist seem surprised that these diseases subsequently remain apparently as intractable as before, forgetting that the pathological conditions may vary from day to day in an organ so exposed, thus calling for a coincident change, perhaps temporary only, in the plan of treatment. There is a necessity for special teachers for purposes of education in medical schools. There exists the need

of better opportunities for instruction by means of special clinics either in special hospitals or in special wards in established institutions. The neglect of existing institutions to do common justice to patients suffering from these diseases is a outrage against reason and humanity. On the other hand, relatively speaking, there has been great progress during the last twenty-five years in the proper teaching of this specialty, and the present condition of dermatology in America is flourishing. The speaker complimented here the *American Archives of Dermatology*, edited by Dr. Bulkley, the only special journal of dermatology in the English language, and added that within his own knowledge a comparatively limited number of American dermatologists had already made three hundred and twelve contributions to the literature of this department of medicine.

A paper upon Acute Conditions of Disease excited by Iodide of Potassium, by Dr. A. Brooks, of Chicago, was then read out of turn.

Dr. T. E. Atkinson had given as much as two drachms of the drug *ter die* for a month.

Dr. R. W. Taylor had seen acne, arthralgia, with pain in the sclerotica and conjunctivitis, follow even small doses; after large doses he had noticed only dermatic lesions, even bloody pemphigus, but without rise of temperature. He had given by degrees as much as twelve drachms per diem for many days; in one case twenty drachms for a sciatica due to syphilis, which amount, however, produced less effect than fourteen drachms combined with two drachms of the bromide of potassium.

Dr. L. A. Duhring spoke of a boy who applied for treatment for an oozing and crusted patch of infiltrated eczema upon the fore-arm. There were also vesicles, bullæ, and a few pustules upon the palms, wrists, and fore-arms. The vesicles were from pin-head to pea sized, elevated, and in places confluent, resembling variola. The whole picture was a fac-simile of Tilbury Fox's plate of dysidrosis. The eruption appeared the day after taking three or four ten-grain doses of the iodide. The vesicles oozed when punctured, but did not crust nor collapse perfectly. There was no itching, œdema, or febrile disturbance. The eruption dried up in a week without treatment. The eczema was not influenced by the drug.

Dr. Van Harlingen had also seen the case, and added that the eruption was essentially upon the extensor surfaces, becoming more scattered as it extended up the arm. The eczematous patch was about four by three inches, and upon the flexor surface. The vesicles were umbilicated. The pulse quite normal. After the eruption had disappeared the drug was again administered, *experimenti causa*, and the vesicles immediately reappeared.

Dr. J. N. Hyde had given one and a half drachms *ter die* for a week in one case, and added that the author of the paper under discussion had confessed in his presence to giving doses of one thousand grains per diem.

Dr. W. A. Hardaway had seen intense urticaria, even purpura urticata, upon a tuberculous patient after one half of a grain of the iodide.

The afternoon meeting was opened by Dr. L. D. Bulkley, of New York, with a paper upon Eczema Marginatum in this Country. His treatment was by sulphurous acid.

Dr. Heitzmann considered the disease the same in this country as in Vienna. He had repeatedly cured cases in a week's time by means of Wilkinson's ointment spread thickly upon rags and closely and continuously applied.

Dr. Duhring remarked that eczema might be found in the region attacked by the so-called eczema marginatum, and should bear its own name; that tinea circinata might also exist there, and ought to retain its own name; that furthermore the two diseases were, from the first, distinguishable from each other.

The president added that the two maladies might be combined, as where an old chronic eczema was subsequently inoculated by the parasite, or where the parasitic disease occasioned an eczema, as it would upon patients subject to attacks of the latter. The growth of tinea trycophytina was the same here as in Europe. He had had cases of "Burmese ringworm" where, after the destruction of the parasite, the eczema only gradually died out. The disease is of slow cure, and, though Wilkinson's ointment is very valuable, he had never obtained from its use the speedy cure referred to by Dr. Heitzmann. He had never seen tinea versicolor assume any of the characteristic manifestations of this disease, nor favus, except in the early so-called "ringworm stage."

Dr. A. Van Harlingen, of Philadelphia, then read a paper upon the Pathology of Seborrhœa.

Dr. G. H. Fox referred to a case where the whole glans penis was enveloped, as with smegma, by an apparently epithelial growth which could be sealed off in laminæ.

The president spoke of this condition as one of a commencing horny growth, the development of epithelial matter being accompanied by enlargement of the papillæ and followed by horn formation. For two years he had had such a case under observation while developing. At first laminæ could be removed.

The paper of Dr. Fox upon Molluscum Contagiosum was then read by that gentleman, based upon twenty-four cases.

Dr. Heitzmann stated that he had examined two such cases under the microscope and found epithelial elements in a state of fatty degeneration containing the "molluscous bodies" of Virchow and Retzius, which were supposed to be the bearers of contagion. He had seen molluscum occur upon the thighs of women, from leucorrhœa, just as papillomatous warts may arise by contact with the secretion of blennorrhœa, of which he had even seen one case upon the face. The sebaceous glands, the root-sheaths of the hairs, etc., may be at times in such a condition that irritative stimulation is alone needed for the production of new growth. Dr. Heitzmann recognized the relationship between molluscum and common warts, and did not regard the former as contagious. Recent investigations at Vienna tend also to disprove any contagiousness.

Dr. Duhring spoke of the rarity of molluscum among the upper classes in Philadelphia, where, however, it did occur. He had rarely met with well-developed cases in children, though he had seen scores where the appearances were ill-developed or in an abortive stage, the size, perhaps, of a pin's head.

Dr. E. Wigglesworth, of Boston, was also skeptical in regard to the contagiousness of the disease in question, although he could say, in answer to Dr. Duhring's remarks, that he himself had been at one time the subject of an attack of molluscum, occurring curiously enough but a short time subsequently

to his having expressed with his thumb nails the contents of several molluscous papules, for purposes of microscopical examination, from a patient in dispensary practice. In his own case the individual lesions had been found successfully and upon various parts of the trunk and limbs.

Dr. Wigglesworth's paper upon Faulty Innervation as a Factor in Skin Disease was then read by title only, owing to illness upon his part.

A short paper by Dr. Dyce Duckworth, of London, upon The Treatment of Severe Bed-Sores was next read by the secretary and the association adjourned.

SEPTEMBER 5, 1877. The first paper was by Dr. R. Campbell, of New York, upon A Case of True Prurigo (of Hebra.)

Dr. Duhring had seen this case, and but one other in this country, a case shown him some four years ago by Dr. Wigglesworth, occurring in Boston. General discussion showed that none of those present had ever observed more than two cases, and these for the most part were the same cases seen by the various physicians.

Dr. Wigglesworth, in addition to the case alluded to by Dr. Duhring, the first case ever published in this country, reported in full in the January number of the year 1873 of *The American Journal of Syphilography and Dermatology*, had seen another case, occurring upon a farmer, where the formation of papules, the thickening of the skin, the buboes in the groins, the locality of the parts affected, the peculiar appearance to the eye and to the fingers after rubbing them upon the lower limbs, the sound caused by this, the discoloration, furrows, and scratch marks were all symptomatic of prurigo; the only opposing evidence was the statement of the patient that the disease did not begin in infancy. This case had unfortunately been lost sight of in spite of every precaution.

Dr. J. N. Hyde, of Chicago, then read a paper upon The Immunity of Certain Mothers of Children affected with Hereditary Syphilis. Discussion was reserved until after the reading of another kindred paper.

A paper by Dr. C. Heitzmann, of New York, On the Relation of Impetigo Herpetiformis to Pemphigus, closed the morning session.

In the afternoon the first paper was by Dr. Wm. A. Hardaway, of St. Louis, upon The Lymphatic Theory of Syphilitic Infection, with a New View of the Relation between the Chancre and Chancroid, and Suggestions for the Radical Cure of Syphilis.

Dr. Taylor opposed the views of Cullerier, who denies the infection of the child by the father while the mother remains free from taint, and espoused the opposite opinion as held by Cassowitz.

Dr. Hyde spoke to the same effect, and in reference to the law of Colles, of Dublin, namely, that a mother is never affected by nursing her syphilitic offspring, thought it likely that the same rule would apply to the father.

Dr. Hardaway considered the law of Colles as double in its application, applying to both mother and child.

Dr. Atkinson held that the syphilitic virus existed in blood corpuscles and in lymphatic and spermatic cells; that wherever the protoplasm of the body

reaches, the virus may go. He believed in the law of Colles, considering the mother as already infected, the wall between the mother and the foetus having been already surmounted by the syphilitic protoplasm nourishing the foetus. The speaker, like Dr. Hardaway, considered the lymphatic system the medium of infection. He did not regard induration as the necessary sign of infection. All pus is contagious. When unformed, immature, or less virulent, its elements might enter the system carrying the constitutional infection. Formed pus, although syphilitic, caused merely a local lesion, being too large to enter the blood. Could it do so it would produce disease more violent even than syphilis.

Dr. Hyde called attention to the fact that Moser had recently laid bare the lymphatic of a horse, and injected into this some matter taken from a pock upon another horse suffering from horse-pox, with the result that the former animal developed the general constitutional disease.

Dr. Heitzmann was opposed to all theory, and held that the microscope must explain the secret of all such processes as those in question, and teach us to distinguish between healthy corpuscles and those unsound from any cause whatsoever.

Dr. R. W. Taylor, of New York, then read a long paper upon *The Xeroderma of Hebra*.

Dr. Heitzmann had observed in Vienna two cases of this affection and subsequently in this country, upon an immigrant, the first case ever observed here, and which had been already described by Dr. Lewin, of Berlin. He had seen the four cases of Dr. Taylor, and since these two others, one being at present under treatment. This last is the case of a male adult who has had the disease for thirty years. The patches exist upon the face and hands. There is also an ulceration upon the left cheek, which Dr. Heitzmann regarded at first as rodent ulcer and upon which he has operated four times with the dermal curette or scraping spoon, the wound in each case healing kindly. Every six months, however, a nodule again forms. Microscopic examination showed the presence of the elements of epithelial cancer, agreeing with the description of Kaposi.

The president called attention to the resemblance of this disease in its early stages to the "morphœa" of Wilson, the erythema and pigmentary deposits being followed by flat atrophy of the skin. Cancerous growths may appear upon many forms of papillary hypertrophy or of pigmentary deposits in other skin diseases as well as in this.

Dr. Duhring spoke of the resemblance of these cases to morphœa or the keloid of Addison as far as regards the teleangiectatic spots over limited areas of different parts of the body, lasting perhaps a few years, and then undergoing spontaneous involution. The same category may ultimately include these two diseases as morphœa. He regarded the disease in question as an atrophy. In some cases of morphœa also there are marked changes in the capillaries as well as in regard to pigment.

The paper next presented was by Dr. L. P. Yandell, Jr., of Louisville, upon *The Ætiology of Cutaneous Diseases*.

In reply to Dr. Bulkley, the reader stated that he had found at times in old

cases of eczema capitis in children that a periodicity existed in the pruritus, and that he had been able to relieve this by doses of quinine and other antiperiodics without other treatment; so also in cases of eczema upon the upper extremities. It was more difficult where the lower limbs were affected, especially if varicose veins existed. He regarded acute affections of the skin as due to malaria, chronic ones as arising from a scrofulous taint.

The president referred to the prevalence of acute skin diseases in places where malaria did not occur. The reader, no doubt, observed skin diseases upon patients already suffering from malaria, but in Eastern cities they occurred also, and where no malarious taint was in operation. There have been only three cases of primary malaria ever observed in Boston. Where malaria already exists it may be a predisposing cause. The question depends, then, upon the relative frequency of diseases of the skin in places where there is malaria and where this does not exist. It would be interesting if Dr. Yandell would furnish such statistics at the next annual meeting of the association and show the differences between skin as observed by him in malarious regions and those elsewhere.

Dr. Heitzmann said that in Hungary, where there is much malaria, a Dr. Poor had advanced this theory some ten years since; while in Vienna, where "scrofula" abounded, this last was regarded as the *fons et origo mali*. Both theories had at that time been disproved and the question settled.

The association then adjourned.

SEPTEMBER 6th. Dr. L. A. Duhring, of Philadelphia, read a Case of Undescribed Form of Fragilitas Crinium, in which the hairs were split throughout their whole length, from the bulb to the free extremity, and showed specimens under the microscope.

A paper upon Two Cases of very Late Hereditary Syphilis was then read by the secretary, Dr. L. D. Bulkley, of New York.

Dr. Taylor thought that there was an immunity possessed by the skin after the age of twenty years, and he would distrust all symptoms occurring later than this period for the first time, and refer them rather to acquired syphilis.

Dr. Atkinson referred to a case of syphilis inherited through two generations, reported by him in the *Archives of Dermatology* for January, 1877.

The president had seen atrophy of the dental tissue occur in the second teeth, where no syphilis existed, the case being preceded by severe illness of an acutely inflammatory type. Here the lower teeth, the molars, and canines were sound, the lateral upper incisors wanting, and the central ones notched.

Papers upon The Pathological Histology of Psoriasis, by Dr. A. R. Robinson, of New York; The Auto-Inoculation of Vegetable Parasites, and their Non-Identity, by Dr. E. Wigglesworth, of Boston; and Affections of the Testicle in Hereditary Syphilis, by Dr. R. W. Taylor, of New York, were then read by title only.

Dr. Van Harlingen showed tubes, like those used in oil painting but larger, for the purpose of preserving and dispensing ointments, which should be melted and poured into the open bases of the tubes, these being then closed. This offered also a cleanly method of transporting ointments. They were also in use

for English shaving soaps, and could be obtained of all sizes from Remington, Eighteenth and Walnut streets, Philadelphia.

Dr. Fox had used these to inject ointments through a soft catheter deep into the urethra.

After the induction of the newly elected officers, the association adjourned to meet at Saratoga on the last Tuesday of August, 1878.

HEALTH RESORTS IN THE UNITED STATES.

As the season approaches when patients with consumptive tendencies consult their physicians anxiously with regard to the coming winter, it is a matter of practical importance to us to know where to send them. It is not always easy to make up our minds on this point, and many questions must be decided in each individual case. The desiderata are, in the first place, a sufficient amount of comfort and amusement, then a climate where the patient can be much in the open air, and last, but not least, accessibility and the possibility of living at a moderate expense. In this connection it is evident that what is luxury for one may be positive discomfort for another, and the degrees of latitude and temperature are not necessarily the most important considerations. In many cases, no doubt, for six months in the year, an out-of-door life in the woods of Maine or the Adirondacks might answer the purpose in averting or removing the symptoms of disease. But oftentimes the return of winter, with the stifling furnace-heated atmosphere within many of our houses, and the slight temptation for invalids to venture out, makes a change of residence imperative for those who find it practicable. In most cases of advanced or rapidly progressing phthisis the personal comfort and happiness of the patients are best promoted by staying at home. So great, however, is the faith of many of the subjects of lung affections in their ultimate recovery, so loth are their friends to give up hope, and so slow is the advance of the disease in some unfavorable looking cases, that we believe physicians often allow themselves to be over-sanguine, and to give their perhaps hesitating approval to a journey to Florida or the south of France, which brings only disappointment and hastened death away from home and friends instead of the hoped-for relief. But in the beginning, or before the active symptoms of hereditary phthisis have developed, when the invalid can bear a reasonable amount of exposure and fatigue, the curative effect of a judicious mode of life in a climate where the patient can keep himself in the best physical condition for resisting disease has long since been demonstrated, so that we may now consider the early stages of consumption, especially when it is hereditary and therefore more carefully watched for and guarded against, as more amenable to treatment than most organic affections.

One of the first considerations with many such invalids is the cost. A winter on the Nile falls within the reach of but few, and although the climate of Egypt has been highly extolled by English writers, it is certain that there is often considerable exposure from the variations of temperature between day and night on the river, and doubtless more harm than good has resulted to

many consumptives who have injudiciously tried it at too late a period in the disease. Pau, Nice, Mentone, and indeed all the sanatoria in the neighborhood of the Mediterranean require an expenditure which many cannot afford, and, apart from the luxury and amusements to be found at fashionable resorts, these places offer nothing which we cannot have nearer home.

Within our own borders Florida has been greatly sought of late years. It is within easy reach, combines plenty of out-door amusement and social society with a climate which is excellent for many cases, has sufficiently comfortable hotels at many points, but, again, is beyond the means of the many who might otherwise wish to go there. The malarious influences in certain localities and the debilitating effect of the early spring, as in Havana, are the chief objections to this climate. Many invalids are driven northward too early, though they have the alternative of stopping for a few weeks in Georgia or South Carolina on the way.

Colorado, especially the region in the neighborhood of Colorado Springs, has proved to be most beneficial to consumptives, and will probably increase in favor every year, though the cold in winter may sometimes be objectionable, as is the case in many of our Western States and Territories.

We publish elsewhere a letter from a correspondent in California which will doubtless be of interest and value to our readers as giving the practical information which is often so hard to obtain with regard to health resorts which are not much frequented. Judging from all the facts within our reach, however, we are inclined to think that the temperate and equable climate of some parts of that State, and the long dry season, with the great diversity of sports and the inexpensive mode of life, combined with a fair degree of comfort, will make it the nearest approach to an El Dorado for invalids which is to be found in any quarter of the globe. The following instance is mentioned in an interesting article on Camp Life in the *Pacific Medical and Surgical Journal* for August:—

“Something over one year ago a young man came to California from the East, in company with his sister, who was in the advanced stage of phthisis. They were of a consumptive family, and the gentleman himself had suffered several hæmorrhages of the lungs. They went to Santa Barbara County, where the sister soon died. But the brother’s health improved with his out-door country life on a farm, where he ‘roughed it’ like a common laborer. Thinking himself permanently restored, he went to Santa Barbara and procured employment as clerk in a store. But in less than a fortnight an attack of hæmoptysis drove him back to the country, with the conviction that an out-door life was essential to his existence.

“The sequel of this case is singular enough, and serves to illustrate the difficulty in calculating the effect of climate on health and establishing fixed laws on the subject. After regaining his health in Santa Barbara County the gentleman in question came to San Francisco, where he has now resided four months, and so far from suffering injury from the climate he has continued to increase in strength, and exhibits not the least indication of pulmonary or other disease.”

MEDICAL NOTES.

— A correspondent of the *Medical Record* writes as follows: "This is the way in which they manage 'these things' in the town of Waterbury, Conn., and I think you will admit that the following subjoined extract from the letter of a physician in Waterbury to a medical friend in this city is worthy of more than a passing thought:—

"There are no losses, however, as *all* the bills are paid, and there are no free patients. The poor of the town are admirably provided for, and I wish some such plan could be adopted in New York city. When a patient wishes to avail himself of the dispensary he is obliged to apply to one of the "selectmen" for a recommendation. If the selectman is not satisfied as to the applicant's poverty the application is *refused*. When, however, the case is genuine the selectman gives the patient a ticket of admission to the dispensary, and the *town* pays the doctor and buys the medicine; consequently Waterbury neither manufactures paupers nor starves its doctors. . . . The people seem not only grateful for what is done for them, but also anxious to settle their bills.' "

— In *The Clinic* of August 11, 1877, Dr. Roberts Bartholow calls attention to the value of the bromide of potassium in cases of epileptiform tic-douloureux. This disease is described by Trousseau as follows:—

"An individual, who for an instant before experienced no unusual sensation, and was totally free from suffering of every kind, is suddenly seized with horrible pain while speaking. He is then seen to put his hand on his face and press with violence; he rubs with extraordinary energy, so that finally the repeated frictions destroy the hair on that side; he compresses his head between his hands and groans with the anguish. This scene lasts five, fifteen seconds,—one minute at most,—and then he suddenly becomes quiet without having had convulsions. The individual resumes his interrupted discourse until he shall be seized by a fresh attack. Such is *epileptiform neuralgia*. Or it may be at the moment when the attack begins all the muscles of one side of the face are agitated by rapid convulsive attacks, which, as in the preceding case, will be accomplished in a minute or less; such is *convulsive epileptiform neuralgia* or *tic-douloureux*."

To such a case Dr. Bartholow gave a drachm of the bromide of potassium three times a day. Bromism was quickly induced, but the effect on the tic-douloureux was immediate and most striking; the paroxysms ceased at once, and the patient has not had any pain since.

— That toads will eat bees, says *The Popular Science Monthly*, would seem to be proved by the observations of M. Brunet. As the bees from a hive were coming in to escape from a rain storm, some of them rested on the grass in the vicinity awaiting their turn to enter. M. Brunet saw a toad busy in devouring these bees. He carried the toad again and again to a distance of from thirty to fifty metres from the hive, but sooner or later the animal was at his post again greedily devouring the bees.

THE CLIMATE OF SOUTHERN CALIFORNIA.

MESSRS. EDITORS, — Since my arrival here, extending over a period of six months, one thing has particularly impressed me, namely, how little is known in Boston regarding California. I knew from what I had read on the subject that Santa Barbara was a good place for invalids; probably it is the one best known in Boston; it certainly is the one most visited and best liked by Boston people. Its position on the map will show how well protected it is. The town has a southern exposure; towards the ocean high islands afford protection from the winds; behind, the mountains of the Coast Range rise very close to the town, keeping off cold north winds which would otherwise be very disagreeable. It therefore has very great advantages of location, and attracts by its really fine climate. To one leaving Boston late in the fall or early in winter and going directly to Santa Barbara the change is delightful. Instead of cold November rains and a dreary landscape he can enjoy an almost uninterrupted succession of sunny days, open windows, and out-door life. From my short experience there and conversation with others who have had more of a trial of Californian climate, I concluded that a very great improvement could be made on Santa Barbara by going a little farther inland. The air of Santa Barbara is delicious, but in the middle of the forenoon, when the sun reaches the zenith, the light breeze heavily laden with moisture blows up fresh and cool from the ocean, making the atmosphere very bracing, and this is just the trouble with it. Any one with disease affecting the respiratory organs, especially if it is advanced sufficiently to demand a change, cannot endure so much stimulating sea-air. In the latter winter and the spring months there is also much fog and dampness, particularly at night. In other words, Santa Barbara is a sea-coast town, and some of the disadvantages inseparable from coast towns affect her residents. But these objections can be overcome by going inland a few miles, among the foot-hills. Here an invalid finds all the advantages that Santa Barbara offers (excepting that he has less society, and perhaps Santa Barbara has too much dancing and gayety at its large hotels), and in addition a dry air, finer scenery, more game, etc. The Ojai is just such a spot, and one of the most desirable. It is an Indian name, meaning a crescent, adopted and spelled by the Mexicans, who applied it to a large grant held from their government, and nearly covering the whole valley, which was afterwards called the Ojai Valley. About six years ago the land covered by the Ojai grant under a patent from the United States passed into the hands of some gentlemen connected with the Pennsylvania railroad. They sold the land, which has now been cut up into small ranches. It lies among the foot-hills of the Coast Range, ten miles from the Pacific and one thousand feet above the sea. San Buenaventura is fifteen miles distant. To Santa Barbara through a fine mountain pass it is thirty miles. San Buenaventura is the business centre, and here several times a week the steamers of the coast-line call on their way to and from San Francisco. To San Francisco it is four hundred miles. To Newhall, the nearest station on the railroad, is fifty miles. To Los Angeles, seventy-five miles. The Ojai Valley is eight or ten miles long

east and west, and from a width of three miles at the west end it tapers to about a mile at the east. To the north of the valley the mountains rise very abruptly to a height of four thousand feet above the valley and five thousand feet above the sea. On the south they are much smaller, running off in some places to high hills. To the east the ranges on the north and south approach each other, and the end is filled up by a fine mountain, Santa Paula. The sides of these ranges are furrowed and broken by deep cañons which run far up their sides. They are covered with live-oaks, sage brush, and chaparral. The surface of the valley is very even for so hilly a neighborhood, and is dotted all over with clumps of evergreen oaks. These live-oaks of California are beautiful trees, scattered about, having large trunks and branches, often twisted and gnarled, with fine tops of bright, clean, evergreen leaves, white oaks and sycamores being intermixed. In places where the land is rolling and the trees collect in clumps, an appearance like an English park is presented. In the middle of the valley a town site was laid out three years ago, and named Nordhoff. Here have been built a post-office, grocery store, hotel, school-house, church, and private houses. A mile up the valley is a private boarding-house. All up and down the valley are the houses of farmers. At a distance of seven miles up a cañon are the Matilche hot sulphur springs, where cottages, bath-houses, and a hotel have been built. There are also two or three other warm sulphur springs in the valley. The temperature of the air here is not quite so even, taking an average of the whole year, as on the coast. It is slightly colder in winter and warmer in summer. There is considerable change every day, the nights being quite cool, while during the day it often gets very warm, even in the winter months; there have never been any reliable observations made here. Ice and snow are so rare that they may be said never to be seen. In winter after sunset and in the early morning till eight o'clock, perhaps, a fire is needed; all the sitting rooms are provided with open fire-places, and during the evening a fire is comfortable and cheerful. In the middle of the day, in January and February, the thermometer often reaches 80° F. in the shade, and in the summer it will reach 100° F. on the hottest days. But the heat is never oppressive. The air is always dry and invigorating, and does not cause any exhaustion when at its hottest, as it does at lower temperatures in the Atlantic States. In the summer the trade-winds always begin to blow here by the middle of the forenoon, and even in the hot weather one is seldom desirous of stopping long in the shade; so, to give you figures of the thermometer, conveys a poor idea of the effects of temperature on the body. Taken the year through the temperature is very even. The changes are regular and constant, and can be provided for. The days are always comfortable for riding or working in the open air, and the nights are always cool enough for refreshing sleep. It is *the* country for out-door life: in the winter it is always cooler in the house than out-doors; in the summer it is cooler out-doors than in the house. One can sit during any day of the year, with few exceptions, in the house, with doors and windows thrown wide open, and be comfortable. Or he can throw off his coat and go out in the sun, and walk, ride, or work without exhaustion. Sunstroke is said to be unknown here. Straw hats are in season every month of the year. The people who

live here tell me they wear the same weight and material in clothing the year round. The air is much drier here than in Santa Barbara or other places on the coast. On going out in the evening I am often impressed with the dryness of the air as it strikes my face. In the spring there are some dews at night. Occasionally in the spring months, during the night, a slight fog will roll up into the valley, but it is only when there is an unusually heavy fog on the coast; generally when they are having heavy fogs every night on the coast only an occasional and comparatively light one is seen here. From January till April is the rainy season so called, but during that time we have had only five rains that would amount to as many good showers almost any July in Massachusetts. Still the fields and hill-sides are green, and foliage everywhere is as bright and fresh as in New England in June. There are no diseases here which the stranger need dread any more than at home. There are no malarial affections in this locality. The usual diseases which prevail among people in New England are met with here. There is plenty to amuse and interest a sportsman. Game, both large and small, is very abundant, and the fishing is excellent.

Vegetation is luxuriant and varied. The ferns in particular are to be noticed, several rare species being found here. In this country everybody rides; a very good horse, with saddle and bridle, can be bought for forty dollars. A large proportion of the people are of Spanish descent, and the style of riding and equipment is entirely Spanish. As soon as a man gets here with his family he has to buy a horse for his children. All the small boys of Santa Barbara spend most of their time horse-racing about the streets; they ride bareback on the full run while they are so small that their legs stand out at right angles from their bodies. Every morning I see three little girls ride to school, sitting one behind the other, with their books under their arms, looking about over the landscape with serious, unconcerned faces, as though they had no idea they were doing anything strange. There is plenty to interest visitors stopping here: one meets with very pleasant people; the hotel and boarding house have had a number of guests all winter who have been riding, hunting, and exploring the country; they have gotten up picnics, entertainments in the school-house, played croquet, etc., passing the time pleasantly enough. All have expressed themselves as pleased with the country and as improved in health, and without exception give this place the preference to Santa Barbara. There has been a Chicago physician here who has traveled extensively for his wife's health; he says he has found nowhere a climate which seems to him so well fitted to benefit lung diseases; he prefers it to the health resorts on the Mediterranean. Another gentleman, who spent last winter at Mentone, says this climate is much freer from dampness and cold winds. He improved here much more than while there. A young man who has spent several winters at the South considers this climate better than that of Florida or of the West Indies. Of course these are isolated opinions, and show the result on individual cases. But I don't see why this climate is not excellent. It is not debilitating like that of the South; it is desirable and comfortable all the year round; and the winters are not so cold as in Colorado or Minnesota. The fact that it is a climate which is good at all seasons,

and not to be avoided half the year on account of excessive heat or some dreaded diseases, makes Southern California especially adapted to those cases where a long change of residence is contemplated. In this connection let me say that the cost of living is very light. It is quite common for two young men who have come for their health, perhaps, to hire a little cottage and do their own cooking. Without any particular exertion in the way of economy their expenses may all be included inside two hundred dollars each a year. This sum will pay their rent, food, fuel, lights, washing, and horse feed. Some of those living in this way who are in poor circumstances do light work occasionally on the ranche, which brings them in a little money and perhaps does them good besides. Any one to be permanently relieved by climate should take a protracted course of the medicine, and those who have come here and remained some time have been benefited if not cured. Those wishing to spend any length of time here can pleasantly and profitably employ themselves in raising fruit. The soil is well adapted to growing all kinds of fruit. The dryness of the air, warmth of the sun, and sheltered location of the valley render it especially fitted for all kinds of dried fruit, as raisins, prunes, apricots, plums, peaches, etc., which bring a good return on money invested.

To sum up: the advantages which Southern California, and particularly the Ojai Valley, offer to invalids are (1) mildness of temperature, (2) equability of climate, (3) dryness of atmosphere, (4) sheltered situation, (5) freedom from malarious diseases, and (6) plenty to amuse and interest visitors. The only disadvantage that I know of is its distance from Boston.

Very truly yours,

W. H. FRENCH, M. D.

NORDHOFF, OJAI VALLEY, VENTURA CO., CALIFORNIA.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 1, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	644	31.29	27.46
Philadelphia	850,856	330	20.17	22.88
Brooklyn	527,830	298	29.35	24.31
Chicago	420,000	191	23.65	20.41
Boston	363,940	184	26.29	23.39
Providence	103,000	53	26.75	18.34
Worcester	52,977	26	25.52	22.00
Lowell	53,678	25	24.22	22.21
Cambridge	51,572	23	23.19	20.54
Fall River	50,372	40	41.29	22.04
Lawrence	37,626	18	24.85	23.32
Lynn	34,524	14	21.08	21.37
Springfield	32,976	9	14.19	19.69
Salem	26,739	17	33.06	23.57

AMERICAN PUBLIC HEALTH ASSOCIATION. — The fifth annual meeting of the American Public Health Association will convene in Chicago, Tuesday, September 25, 1877, in accordance with the adjournment of the previous annual meeting. The papers and discussions are arranged under the following divisions of subjects: —

I. Sanitary Topography and the Systematic Drainage and Sewerage of Cities and Villages. Other Problems of Public Health. II. Sanitary Control and Extermination of the Contagia of Typhoid (Enteric) Fever, Scarletina, Small-Pox, etc. Other Problems of Domestic Health. III. Expert Testimony and the Pursuit of Exact Scientific Researches in Public Health Service.

Under these three general divisions contributions are already promised upon the following topics, and upon several of them there will be discussions and written statements from original observation and experience: —

1. Discourse, by the president of the association, on the Sanitary Topography of Chicago, and the Artificial Remedies of Natural Disadvantages.
2. Report on the proposed Sanitary Survey of the United States.
3. A paper on Problems, Old and New, in the Sanitary Drainage and Sewerage of Chicago and other Western Cities.
4. A paper on the Sanitary Geography of Phthisis Pulmonalis, and other Pulmonary Diseases.
5. Statement and Discussion of the Problems of Sanitary Inspection, Safe-Keeping, and Transportation of Food Supplies, Animal and Vegetable.
6. Discourse on the Sanitary Lessons of the Great Fire in Chicago.
7. A paper on "Stamping Out" Scarletina and the Extinguishing of Zymotic Disease.
8. A paper on Sanitary Observations and Preventive Measures in regard to Diphtheria.
9. A Review of the Teachings of Twenty-Two Years' Records of Mortality from Croup, Diphtheria, and Scarletina in a City.
10. A paper on the Miasmata of Dwellings and Dwelling-Grounds.
11. A paper on Family Health and the Relations of Heredity, Habit, and Hygiene to it.
12. A paper on the Entailments of Ebriety in Individuals and Families.
13. Report on a Practicable Method for securing Complete and Authentic Records of the Causes of Death throughout the United States.
14. Suggestions respecting the Sources and Propagation of Trichina, considered with Reference to Sanitary Measures.
15. Suggestions for the Better Hygienic Care of Sailors and other Watermen upon the Coastwise and Inland Waters.
16. Sanitary Safety in Railway Traveling. Facts in the Interest of Travelers and Carriers.
17. Report and Discussion on Expert Testimony.
18. A paper on Hygiene in the Prevention of Insanity.
19. Statement and Discussion on the Sanitary and Economical Importance of the Best Surgical and Medical Treatment of the Needy Poor.
20. A paper on the Tests and Supervision of Milk-Supplies of Large Cities.
21. A paper on Health in Education, as viewed in each Grade of Schools.
22. Report on Enteric (Typhoid) Fever as observed in Western Vermont.
23. Preliminary Outlines of the New Points of Enumeration and Inquiry which the Interests of the Public Health require in the Tenth National Census.
24. Report on Available Methods of Promulgating Sanitary Knowledge and Authorized Information in regard to Vital Statistics and Prevalent Diseases.
25. Discourse on the Judicial and other Aids of Law in Public Health Service. A Practical View of the Question.
26. Discourse on the Present State of Exact Knowledge of the Causation and Prevention of Destructive Diseases which most harm Mankind.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES MARINE HOSPITAL SERVICE. — Bailhache, P. H., surgeon, detailed as chairman of a medical examining board to meet in Washington, D. C., August 13th.

Hamilton, J. B., surgeon, detailed as member of medical examining board to meet in Washington, D. C., August 13th.

Stoner, George W., assistant Surgeon, relieved from duty at the port of Boston and directed to report to Surgeon Heber Smith, port of New York.

Godfrey, John, assistant surgeon, detailed as re. order of medical examining board to meet in Washington, D. C., August 13th. After adjournment of the board to report to Surgeon Heber Smith, port of New York, for temporary duty.

Brown, Francis H., assistant surgeon, relieved from duty at the port of New York and directed to report to Surgeon J. B. Hamilton, port of Boston.

BOOKS AND PAMPHLETS RECEIVED. — The American Practitioner from January to August, 1877.

A New Alphabetically Arranged Catalogue. Philadelphia: Lindsay and Blakiston.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, SEPTEMBER 20, 1877. — NO. 12.

LACERATIONS OF THE CERVIX UTERI AS A CAUSE OF UTERINE DISEASE.¹

BY W. H. BAKER, M. D.

WE are indebted to Dr. T. Addis Emmet for first recognizing this lesion as a cause of uterine disease, and for first demonstrating to the profession a ready and efficient means of cure by his operation of November 27, 1862. This operation as performed fourteen years ago is practically the same as that performed by him to-day, and by those who from him have learned to relieve so many women suffering from the effects of this injury.

That the above accident is a very frequent cause of uterine disease is indicated by the figures produced by Dr. H. T. Hanks at a meeting of the Medical Society of the County of New York, September 28, 1874, when he was able to show that of all the uterine cases treated by him at the Demilt Dispensary in five months of service, numbering two hundred and twenty-nine, in nineteen, or over eight and four tenths per cent., he recognized the above lesion.

During a residence of eighteen months in the Woman's Hospital of New York, of the four hundred and thirty-five uterine cases received for treatment, thirty-nine, or nearly nine per cent., were of the above class. Since then, of the one hundred and eighty-one cases which I had treated up to September, 1876, in private and hospital practice, eighteen, or nearly ten per cent., belonged to the same class.

That this injury is not only of very frequent occurrence, but that it takes place to such an extent that it is followed in time by serious changes, all of which are directly dependent upon it, is still farther shown by the fact that at the time Dr. Emmet read his valuable paper upon this subject, some two years ago, he had already operated for the remedy of this difficulty nearly two hundred times.

Where so large a percentage of uterine cases can be traced to one exciting cause, as we have here pointed out to be the fact with regard to the subject of our paper, it will certainly be well for us to make the matter one for careful study, for close clinical observation, and for the

¹ Read before the Boston Society for Medical Observation, May, 1877.

minute record of cases, from which, taken collectively, we may be able to deduce laws which may aid us not only in the more satisfactory treatment of the patient after the injury is done, but which may also assist the accoucheur in his attempt to prevent the accident, or in the early restoration of the part to its normal condition.

It is with a view of aiding the above purpose that I present the following cases which have been operated upon by me during the past three years:—

CASE I. A. T. entered the Woman's Hospital of New York February 24, 1874. She was a native of Ireland, thirty-five years of age. Married at nineteen, she gave birth to her first child one year afterwards, and a year following the second and last child was born, although she aborted twice subsequently. Both labors were quite rapid, and she dated her illness from the birth of her last child. She entered the hospital complaining of more or less bearing-down pain, and pain in the left groin extending down the thigh. Leucorrhœal discharge had been abundant for years. On examination the cervix was found low in the pelvis, and lacerated bilaterally to such an extent that the inner surfaces had rolled out and had become so hypertrophied that it was impossible with tenacula to restore them to their natural position. March 2d, the patient being etherized, I operated for Dr. Sims by cutting away the hypertrophied tissue to that amount that the everted lips could be rolled back into their original position, where they were secured by five silver sutures. Ten days after the operation two of the sutures were found to have cut out, having been twisted too tightly; the remaining ones were removed. In a month from the time of her entrance to the hospital she was discharged cured, the slight gaping following the cutting out of the two sutures having healed by granulation. Unfortunately this case could not be followed farther.

CASE II. S. W. was admitted to the Woman's Hospital December 8, 1873, suffering from sharp pains in the back and through the lower part of the abdomen, which were greatly increased by walking. She also complained of a leucorrhœal discharge of a thick and tough consistence. The patient was thirty-five years of age, had been married twelve years, had had one miscarriage at six months, and subsequently a child after a rapid labor, ten years before her admission to the hospital. For this latter period she had suffered from the above symptoms, and although not entirely incapacitated for work, yet her usefulness was greatly impaired by constant suffering. She had during this time been treated for "ulceration of the womb" by several physicians, who, mistaking the effect for the cause, had failed to benefit her. On examination the uterus was found retroverted, its cervix lacerated on the left side down to the vaginal junction, and very much hypertrophied, the surface being covered with the discharge already described.

One week after the patient's admission to the hospital I operated upon the case for Dr. Emmet, for the closure of the lacerated cervix. The patient being etherized this was successfully done, the hæmorrhage, which was considerable, being entirely controlled as soon as the sutures were introduced. She made a good recovery from the operation, and then, the uterus being replaced and some intra-uterine applications of impure carbolic acid being made, the womb gradually regained its proper position, and the patient, feeling entirely relieved of her suffering, was discharged from the hospital, cured, January 17, 1874. She was seen four months afterwards, and had continued well. The uterus was then in a normal position, and the cervix looked perfectly natural, no evidence of the operation being visible.

CASE III. M. B. was sent me from the western part of the State, May 20, 1874. She was an American, thirty-eight years of age. Married at eighteen, she had given birth to seven children, and had had four abortions, all of which had occurred since the birth of her third child, twelve years before. This third labor was unlike all the others in that it was very rapid, the pains being severe and forcible, with almost no intermission. She recovered very slowly, and then began to complain of sharp shooting pains through the lower part of the abdomen, dragging and bearing-down pains, and burning sensations in the uterine region. There was also present an excessive leucorrhœal discharge. All these symptoms gradually but constantly increased. The nervous state, too, was most deplorable. She was unable to sleep at night or to keep quiet by day, crying at the least opposing circumstance. I can truly say that I have seldom seen a patient whose nervous system was in such a shattered condition. The patient had been under almost constant treatment for so-called ulceration of the womb for four years before coming under my care, and had been confined to the bed for the greater part of that time. In examining the case I found the laceration of the cervix to be confined to the left side, but had extended through the vaginal junction, having gone into the cellular tissue beyond; the everted surfaces were greatly hypertrophied, and had undergone cystic degeneration. The cervix was presenting at the vulva, the whole organ being retroverted. The perinæum had been torn down to the sphincter muscle, and a large cystocele had formed. It was found necessary to give the patient some preparatory treatment on account of the cystic degeneration of the cervix, before performing the operation, which was done June 16th, or in about a month from the time when she was first seen by me. The laceration was the most extensive one that I had ever operated upon, requiring seven sutures to close it, the line of union being fully one and a half inches long. The result was highly satisfactory. When the sutures were removed perfect union was found, and within a month

from the time of the operation the patient could walk one and a half miles comfortably. Subsequently operations were done for the cystocele and ruptured perinæum, after which, the uterus having regained its natural position, the patient was sent home, cured. She has been heard from from time to time since, and has continued to do well, being able to keep a house full of boarders, doing all the work herself, including the washing and ironing. She has been once pregnant since, but fearing a return of all her troubles with the birth of another child, without any advice she caused an abortion at the third month.

CASE IV. B. T. was sent me for treatment May 14, 1875. She was an American lady, twenty-eight years of age, and had suffered since the birth of her first child, which was delivered with instruments after a labor of ten hours; four years previous to the above date her second and last child was born naturally, one year after the first. The complaints made by this patient were not unlike those in the preceding cases, except that there was a much greater inability to regain strength after her first labor, and a tendency to the most violent attacks of headache on the slightest exertion or even after being present where there was any confusion or noise. The physician who kindly referred the patient to me told me that for some time he had attempted to heal an eroded condition of the os uteri by various applications, and that although she seemed better generally for the time being, yet the erosion had not healed. As the cervix was brought into view by the aid of a Sims speculum, the eroded condition already referred to presented itself, which, by rolling into the canal with a tenaculum in each hand, showed itself to be the lining membrane of the canal, everted after the slight bilateral laceration of the cervix which had undoubtedly taken place at the birth of her first child. There was also a laceration of the perinæum and the remains of an old attack of cellular inflammation of the left broad ligament, which held the uterus somewhat firmly to that side. The operation had to be delayed for more than four months, or until the adhesion on the left side of the uterus had disappeared. The operation itself did not differ from those already described, except that on account of the very anæmic condition of the patient the precaution was taken to use a uterine tourniquet. She recovered without a bad symptom, and has since enjoyed good health. When I met her some months afterwards she told me that she was making up for lost time, saying that she had gone to six entertainments in as many consecutive evenings without feeling any ill effects therefrom.

CASE V. M. S. came to me November 15, 1875, complaining of great leucorrhœal discharge, which had annoyed her since the birth of her first and only child, two years before. She was a native of this country, and was twenty-three years old. Her labor occurred at seven months. She remembered none of the details, as she was uncon-

scious for four days. The child was born without forceps being applied, notwithstanding that the patient had repeated convulsions for forty-eight hours previous to the delivery. In twelve days after her labor she attempted to get up; but, as she expressed it, the "blood flowed so freely that she was obliged to keep her bed for some time longer." Her strength returned gradually, and since getting up from her labor she had suffered no pain of any kind, and would not have presented herself for treatment except for the annoyance of the discharge referred to above. On examination, the cervix was found to be torn very irregularly on the left side, quite through the vaginal junction. The surfaces of the laceration had rolled out, and looked highly injected. There was very little hypertrophy and no cystic degeneration. It was difficult in this case to make the patient understand the importance of an immediate operation. It was, however, soon consented to and performed, being similar in its details to those already described. Since then she has been free from the previous annoyance, and we feel sure saved herself a great deal of suffering which must have followed had not the operation been done.

As the remaining six cases do not present features unlike those already given, we will not lengthen this paper by a prolonged recital of them here, but taking them together with those which are now under treatment awaiting an operation, and those in which it has thus far been found impracticable to perform the operation, we will state some points in their history which are of special interest.

We have, then, the histories of eighteen cases where this lesion has occurred. These include all the cases of this class which have been treated by me in private or hospital practice up to September, 1876. To these we may add the two cases upon which I operated in the New York Woman's Hospital, the full histories of which I retained, giving us twenty cases in all, from which we derive the following facts.

In ten cases the injury occurred with the first labor, and in an equal number at some other than the first confinement.

In ten cases the labor was rapid and the pains usually very severe. In six others the labor was more or less delayed, and finally accomplished by the aid of instruments; in one, the waters having been evacuated two weeks before, the labor was much prolonged; in one the labor occurred at seven months, and after two days of convulsions the child was born naturally; in another the labor was normal; and in the remaining one the character of the labor was not specified.

In all instances we have reason to believe the presenting part to have been the head. In fourteen the laceration was of the left side of the cervix alone. In the remaining six it was bilateral. In sixteen the injury had been followed by some structural change or malposition, directly or indirectly dependent upon this accident, and in the remain-

ing four time enough had not elapsed since the injury for such change to have taken place, and the operation was performed to restore the cervix to its natural condition before such changes should be inaugurated.

In all the cases except one there was an abundant leucorrhœal discharge, which was characterized as thick and tough, and was compared to the white of an egg. In thirteen there were irregularities in menstruation, and an equal number had been treated previously for so-called "ulceration of the womb" or erosions.

Eleven of the cases were operated upon with the most satisfactory results.

In reviewing the foregoing facts it is interesting in the first place to notice the character of the labor in which this accident occurred. In half of the cases this was denominated as rapid and the pains usually very severe; or in other words we understand the force of the uterine contractions to have been so great, even from the commencement of the labor, that time enough was not given for the full dilation of the os, and the rent was made at the point where the greatest amount of force was brought to bear. In three fifths of the remaining cases the labor was prolonged, and finally accomplished by instruments. If, then, there existed any rigidity about the os at the time the forceps were applied, these may have been the immediate cause of the laceration.

It would seem, then, from our cases, that we are not to look for this accident most frequently among the tedious, difficult, or instrumental cases, but rather among those where from the rapidity of the labor we have been led to congratulate ourselves that the patient has passed favorably through her trial.

It is interesting, again, to see the frequency with which the laceration took place on the left side of the cervix. This same fact was observed and most satisfactorily explained by Dr. George T. Harrison in the December number of the *Virginia Medical Monthly* of 1874, where, referring to the mechanism of labor, he shows that with the most frequent form of labor, occurring with the occiput directed to the left, more or less anteriorly, we may look to the above point for the most frequent place of injury. Again, Dr. Emmet, in his most valuable article on this subject, published in the November number of the *American Journal of Obstetrics* for 1874, shows that although lacerations of the cervix most often occur in the median line anteriorly, yet on account of the raw surfaces being kept in contact by the lateral pressure of the vagina these lacerations heal, and that "in practice we have chiefly to deal with the consequences of lateral lacerations," because of the great tendency of the tissues to roll out.

It is still farther interesting to see from our summary of cases that in every instance where sufficient time had elapsed from the occurrence

of the injury some structural change or misplacement had followed. When we consider that the connective tissue of the cervix uteri is in excess of the muscular tissue, we can understand at once why its proper involution should be so readily interfered with; for, as shown by Dr. Lott,¹ and referred to in the article by Dr. Harrison, already noticed, the very condition of tetanic contraction of the body of the uterus, where the muscular tissue predominates, which so influences its further nutrition and consequently its involution, would have little effect upon the cervix. We can easily see how materially affected the proper involution of this lower segment of the uterus would be by the occurrence of a lateral laceration of its tissues, and in fact where this injury has extended through or even to the vaginal junction the cervix is very apt to remain in a state of subinvolution. The process of eversion or rolling out of the cervical canal, which soon follows the puerperal state where this accident has happened, and which is so fully described by Dr. Emmet in the article to which we have already alluded, brings the lining membrane of the canal in contact with the posterior wall of the vagina, the friction against which soon occasions an abrasion of this tender membrane. The constant irritation keeps up as constant a hyperæmia of the part, which in its turn favors the hyperplasia that is almost sure to follow.

There is still another condition which follows upon this state of eversion of the cervical canal, namely, that of cystic degeneration of the cervix. By these terms are meant the formation of numerous cysts from the muciparous glands of the canal, the mouths of which have become occluded by their exposed and unnatural position. It must be evident to all that the combined influences of the above conditions, increasing the size and weight of the cervix, tend to produce some misplacement of the uterus.

We regret to observe that in more than one half of our cases the patient had been treated more or less persistently for so-called "ulceration of the womb," and had derived not only no permanent benefit from the treatment, but had been made worse, as the increased suffering proved. In these cases when a mass of cicatricial tissue is formed over the cervix as a result of the frequent applications of caustic, which is very likely to be the solid nitrate of silver, the nerve filaments becoming compressed, the patient is kept in a state of almost constant suffering. Dr. Emmet, in his pamphlet on the *Surgery of the Cervix in Connection with the Treatment of Certain Uterine Diseases*, compares this condition to an irritable stump where some nerve filament has been involved in the cicatricial line after an amputation.

Dr. Clifton E. Wing has well pointed out the frequency with which this lesion of the cervix is mistaken for ulceration, in an article in the *JOURNAL* of March 16, 1876.

¹ *Anatomie und Physiologie des Cervix Uteri.* Von Dr. G. Lott, 341.

Having reviewed some of the most interesting points brought out by our summary of cases, let us inquire a little more fully into the rational and physical signs present in these cases as a means of diagnosis. At the time of labor neither of these classes of signs is at all well marked, for it is the secondary effects of the laceration which make the rational signs the most noticeable, and when the accident occurs the tissues are so soft that it would not be readily recognized even by the touch ; therefore the injury is likely to pass unobserved at this time, unless, as Dr. Emmet has shown, the tear has extended beyond the cervix into the vaginal and cellular tissues, and has occasioned an unusual hæmorrhage.

The first thing which attracts our attention in the list of symptoms is the tardy recovery of the patient, a "bad getting up," as she expresses it, and when more than the usual time has elapsed, and she thinks she should be able to be about, she feels somewhat discouraged on account of her inability to stand ; or it may be that with the attempt to walk more or less hæmorrhage is noticed. As time goes on, intercourse may be complained of as being painful, or perhaps followed by a slight show ; there is ever present backache, a sense of weight in the pelvis, pains extending down the thighs, a sensation of heat or burning in the hypogastrium, irregularities in menstruation, and throughout the whole there persists a more or less abundant leucorrhœal discharge. As the nervous system is continually taxed by the foregoing symptoms, it finally claims its full share in the trials to which the patient is subjected, and she is probably by this time a confirmed invalid, and may indeed think herself fortunate if she is not confined to her bed, a truly deplorable wreck.

The physical signs change very much, of course, as the case progresses. At an early stage we are struck by the size and softness of the cervix, and by the aid of the speculum we see at once the everted membrane of the canal, the epithelial layer of which is often abraded ; later we have the large flattened, appropriately termed mushroom cervix, with its firmer tissue and shot-like feel ; and still later we find the cervix hypertrophied, the tissue firm and indurated, and if it has been treated with caustics the surface covered over with cicatricial tissue and the substance as hard as a piece of granite. Or the case having been left to itself the epithelium becomes abraded, and the constant friction to which the part is exposed keeps it constantly irritated, so that the appearance might readily be mistaken for that of malignant disease. To all these appearances in this latter stage we might have added the various malpositions which have been occasioned by the change which has taken place in the cervix.

Obviously a case of this class must go on indefinitely unless measures are taken to repair the injury. Nor does the long-looked-for menopause prove that haven of rest anticipated ; for the misplacements

which have been induced by this accident may remain and still exert the most deleterious influence on the health of the patient. It is sometimes necessary to advise some preparatory treatment before resorting to the operation, as in Case IV., where the evidence of an attack of cellular inflammation remained, which was removed by the use of the hot vaginal douche and the local application of the tincture of iodine. Or if the case has been one of long standing and the cervix is in a condition of cystic degeneration this will require attention, in order that when the everted surfaces of the canal are rolled back into position again at the time of the operation, none of these little cysts may be included in the wound.

Dr. Emmet's operation, which he so fully describes in his paper, is certainly one of the most practicable and highly satisfactory known in the department of uterine surgery. It consists simply in denuding the surfaces of the laceration and in bringing them together with silver sutures, which are to be left in place for eight days or more, as the case may be.

The dangers of the operation are primarily hæmorrhage, which can be usually controlled by the use of the uterine tourniquet, or subsequently by the twisting of the sutures; and secondarily from peri-uterine inflammation, which, if proper care is used, will very rarely happen.

From the fact that this injury has been shown to be of such frequent occurrence, practitioners cannot be too strongly impressed with the importance of examining all patients who have been confined before they are discharged from their care with the assurance that they are perfectly well again, and by thus doing they may sometimes save their patients years of suffering by rectifying the damage before the long train of diseases consequent upon this lesion shall have shown themselves.

ALBUMINURIA AT THE SEVENTH MONTH OF PREGNANCY; SEVERE GASTRALGIA; INDUCED LABOR; RECOVERY.¹

BY S. L. ABBOT, M. D.

I WAS called on the night of July 2, 1876, to Mrs. S., a young lady, in her second pregnancy at the seventh month. She was suffering from severe pain just below the ensiform cartilage, paroxysmal in its character, coming on several times during the day, and lasting from a few minutes to half an hour or more. In the intervals there was no local soreness nor other symptom. The pain had been troubling her more or less for several weeks, being very insignificant and infrequent at first, but later increasing in frequency, severity, and duration. The weather had been intensely hot, and the patient had undergone a good deal of

¹ Read before the Obstetrical Society of Boston, April 14, 1877.

fatigue in a vain search for a suitable country residence during the summer. Her appetite was rather poor, and her strength was a good deal exhausted. In the intervals between the attacks, however, she took a moderate amount of food without oppression, although occasionally the coincidence of an attack with the taking of a meal had been such as to excite suspicion that the pain was due to indigestion. The patient was a lady of nervous temperament, and had suffered much in the course of her life from facial neuralgia. She had been taking, under the advice of a physician now out of town, moderate doses of quinine.

On the present occasion the pain was entirely relieved by small doses of morphine, given at short intervals for two hours, and did not return during the night.

The morning after the patient was found suffering from nausea caused by the morphine which she had taken, and the pain had returned. There was the same entire relief, however, between the paroxysms, and she was able to take a reasonable amount of nourishment after the nausea subsided. In the hope of preventing this unpleasant symptom the morphine was given in combination with a moderate quantity of chloral and bromide of potassium without producing nausea, but the relief was only temporary, the pain becoming more frequent, more severe, and of longer duration, leaving her much exhausted, and with little appetite. In the intervals between the attacks quinine was administered, with stimulants.

On the 7th it was learned, on inquiry, that the urine was very scanty, and on examination it was found to be heavily loaded with albumen, dark and smoky, with a specific gravity of 1028. I find no memorandum of microscopic examination. There was no œdema, nor had there been any, but the patient was constantly bathed in a profuse perspiration. The attacks of pain had somewhat changed in character, and amounted to agony. Starting from the epigastrium it extended across the left chest, through to the scapulæ, and down the left arm to the elbow. It also seemed to affect the diaphragm, as free expansion of the chest was prevented, causing considerable dyspnœa. On auscultation, however, vesicular breathing could be heard to the very base of the lungs, even at the height of a paroxysm. The heart's action was quickened and feeble, but there was no sense of palpitation. Stimulants were given freely, and ether was inhaled as occasion required.

From the first, frequent inquiry had been made as to the existence of uterine pain, but none was complained of. By laying the hand on the abdomen, however, during a paroxysm, the uterine fibres could be felt in places gathering up into knots by what appeared to be a limited contraction. On directing the patient's attention to this symptom, she recognized at the points indicated a sense of constriction, but no pain.

This symptom was noticed from the first, but had not increased, indeed was almost lost sight of in the severity of the other symptoms.

It being now apparent that the patient's life was seriously compromised, the question of bringing on labor presented itself with great urgency, and it was accordingly determined, on consultation in the evening with Dr. Storer, to resort to it at once. An examination showed that the os uteri was dilated to the size of a quarter of a dollar, and that the membranes were quite tense. As the patient, however, at this moment was free from pain and disposed to sleep, I deferred rupturing the membranes until she had had a few hours' rest. She slept more or less for four hours, and at the end of that time the membranes were ruptured, and labor quickly followed, the child being born within two hours. It was noticeable that the gastralgia, which had returned before the membranes were ruptured, disappeared entirely during labor, as soon as uterine pain came on. The child was born living, but died at the end of twelve hours, not being able to retain any nourishment.

Scarcely had the uterus contracted after the expulsion of the placenta when the epigastric pain returned with unmitigated severity. The patient was extremely exhausted, the pulse very feeble and frequent, and she was in a perfect bath of perspiration, which saturated her linen and the sheet beneath her, her hands being cold and clammy, as if soaked in cold water; she was evidently in a very critical condition. The *mean* temperature of the atmosphere during the first three days of attendance was over 81° Fahrenheit, and for the next three, 74°, 75.7°, and 72°, — a circumstance which greatly aggravated the patient's sufferings. Brandy was given at short intervals, and ether was freely inhaled. It was not until the end of four hours that I felt it safe to leave her side. She rallied, however, during the day, and by evening was quite free from pain, and stronger.

The patient required the catheter for two or three days, and on the third day complained much of headache, as from a band tightly drawn across the forehead. A singular symptom, which existed for several days after labor, was that the air seemed to the patient to be full of beautiful objects, mostly in the form of flowers, all of a brilliant purple color. She expressed herself in strong terms of admiration of these visions, which were so vivid to her that she said it seemed almost impossible that nobody else could see them, although she was fully aware that they were optical illusions. After the first day she took nourishing food freely, and there was no return of the peculiar pain.

The fourth day after confinement the urine was much clearer, strongly acid, of specific gravity 1010, and slightly opalescent only when tested by boiling and nitric acid. The microscope showed abundant crystals of uric acid and two small fragments of granular casts; on the day before albumen was found in large quantity by boiling.

The patient gained steadily from this time, having no return of the gastralgia, but suffering a good deal from facial and temporal neuralgia, which assumed a somewhat periodic character, its intensity being greatly increased in the evening and night. On the 4th of August, however, she declared herself as well as she had ever been in her life, and her health has continued excellent to the present time.

The only case which I find on record similar to the above is Case XLIX. of Dr. Elliot's Obstetric Clinic. In that, however, the gastralgia seems to have been less remittent than in mine, perhaps because in the latter the symptoms were not allowed to proceed to the same extremity before labor was induced. In Dr. Elliot's case there was, as in mine, "no œdema nor puffiness of lower eyelids, or of any part of the body." The urine contained a very large quantity of albumen, "but the specific gravity was high, 1032; granular casts. There were no head symptoms, disturbances of vision or hearing. She complained of pain over the epigastrium, and had been vomiting sour fluid." Labor was induced with some difficulty, and a dead child was born. In this case, as in mine, the albumen disappeared very rapidly from the urine, being hardly noticeable on the second day after labor, although it returned in increased quantity two or three days later. There is a curious coincidence also in the cerebral symptoms at this stage. The gentleman in immediate attendance upon the patient, Dr. Mitchell, of Brooklyn, says, on the afternoon of the 8th, the fifth day following labor, he "was called because of the appearance of new symptoms. She says that she sees a great many beautiful sights of fairies in processions, and weddings, and is astonished that others do not see them." These fancies, however, passed away in a few hours, and convalescence was speedily established; the urine, however, remained at a low specific gravity.

TRANSVERSE FRACTURE OF THE PATELLA.

BY IRA BROWN, M. D., WELLS RIVER, VT.

IN *Braithwaite's Retrospect* for January, 1877, is the report, by Dr. W. T. Grant, Royal Infirmary, Edinburgh, of a case of transverse fracture of the patella treated by means of adhesive straps and weights, exact apposition of the fragments being thereby secured with good results. Dr. Grant also mentions three cases reported by Dr. Hornbrook, of America, treated by adhesive straps alone, the result being bony union in each case.

I send you the report of a case treated by myself previously, which, if you deem it of sufficient interest to the profession, please give a place in your journal.

H. D., a healthy Irishman, age twenty-three, residing in South Bos-

ton, October 24, 1876, while employed as a farm hand in Ryegate, Vt., slipped and fell, receiving a transverse fracture of the patella nearly through its centre. I saw the patient soon after the accident, and found the two parts of the bone about one inch asunder.

Taking three pieces of elastic web, each three inches long by three fourths of an inch wide, I doubled them to secure greater strength, and then sewed to each end a piece of adhesive plaster ten inches long. While an assistant pressed together the two parts of the bone, one of these strips was carried along the front of the limb, the elastic web being brought on the stretch over the knee, the other strips being similarly placed on either side of the limb, which was then placed on a well-padded curved splint (Goodwin's), raised at the foot, and a roller lightly applied around the leg and splint.

On visiting the patient the following day I found the middle elastic strap a little loose and the fragments of the bone about one line apart. Removing this strap, I took an adhesive strap two and a half feet long, placed the middle above the patella, and while an assistant pushed the upper fragment down to its fellow carried the two ends downwards and backwards to the calf of the leg with sufficient force to hold it exactly in place. In like manner a second strap was carried from below the patella upwards and backwards to the thigh. Four other shorter straps having been so applied as to hold the fragments firmly in place, the splint was replaced as before.

On removing the splint at the end of three weeks, firm and exact union was found to have taken place. The adhesive-plaster dressing was continued, and passive motion commenced.

Mr. D. returned to Boston December 24th, at that time using crutches. I learn that he went to one of the Boston hospitals in February, and the surgeons upon an examination declared that no fracture had existed.

I will only add that in my opinion the adhesive straps alone, without aid from elastic bands or splints, would be sufficient to secure firm, bony union in most cases of transverse fracture of the patella.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D.

*The Abuse of Morphia.*¹ — An editorial calls attention to the alarming prevalence of *morphinism*, or “the same craving for morphia” that tipplers have for alcohol. When the effect of morphia has passed off the patients are subject to a deep melancholia with suicidal tendency, and generally complain of a gnawing and tearing pain in the left hypochondriac region. In commenting on these observed facts the writer,

¹ London Medical Examiner, July 5, 1877.

though admitting that there is sufficient authority from eminent clinical observers for the subcutaneous administration of morphia in constantly increasing doses for the relief of pain, says that one point is very often overlooked, namely, that the prolonged use of morphia produces the symptoms which under favorable circumstances it also relieves, hyperæsthesia, paralgesia, insomnia, mental depression, etc. He calls attention to another well-known fact: the lower we descend in the animal scale and the more imperfect the structure of the brain becomes, the more morphia excites reflex irritability, until in the frog this irritability is replaced by tetanus, just as if strychnine had been administered. So, also, we find among individuals of nervous temperament that the excitability following the use of morphia is very great and may even resemble that of delirium: the negro or Malay intoxicated with opium becomes boisterous, pugnacious, and convulsed. From the very fact that neuralgia is more commonly met with in individuals of exalted nervous temperament, the use of morphia in these cases should require great caution. The apparent increase of fat in those persons who have been under morphine treatment for the relief of pain is probably due to the property which this drug possesses of diminishing the complete combustion of hydrocarbons, and, as is the case also with alcohol, this fatty accumulation is not normal but abnormal, and does not tend to the well-being of the patient. The attention of physicians in this country is called to the above remarks, because undoubtedly the use of morphine, especially by the hypodermic method, to allay pain is so successful and prompt that we are eager to use it, when perhaps the administration of a powerful dose of quinine in neuralgia, or phosphide of zinc and extract of *nux vomica* in shingles, or a local application of carbonate of soda to the cavity in a carious tooth will not only act as promptly, but will also prevent the recurrence of pain. Again, in many cases of diarrhœa which is the result of an intestinal irritation caused by impaction of hardened fæces, instead of relieving the pain caused by the presence of these fæces in the colon by the free use of opium and morphine, a good old-fashioned dose of epsom salts or castor-oil, with a dose of opium to control the pain and excessive peristalsis, or an enormous enema of flaxseed tea or olive oil and hot water will bring away the offending substances and avert a severe case of catarrhal inflammation of the colon, and also relieve the pain of tenesmus. To illustrate these latter remarks: a patient under treatment for dysentery had persistent watery diarrhœa, followed by mucous and bloody mucous discharges for three weeks. He was treated by large doses of laudanum by the mouth and by the rectum. He was also put on a milk diet and given large doses of powdered bismuth and chalk mixture. The character of the discharges not improving, and there being no report of any alvine discharge for two

weeks, it was concluded on seeing him the second or third time and after a careful examination by palpation and percussion that there were some faecal lumps somewhere near the caput coli, the presence of which caused the intestinal irritation and constant pain. I ordered the patient to take a few swallows of Hathorne spring water, and to his great satisfaction in a few hours he passed several black scybala, and in the course of the next twenty-four hours, on the repetition of the spring water quite a large quantity of hard, blackened faeces. The constant pain, which had been controlled only by large doses of opium for the twenty previous days, immediately ceased. Other similar cases are common enough, but serve to illustrate that pain is often a symptom of danger, and if this is quelled by anodynes it may often prevent us from resorting to expedients which will remove the cause of pain and save our patient from serious chronic disease.

M. Calvet¹ presents (1) a physiological research of the action of morphine upon the various functions of the organism; (2) a clinical study of morphine as a therapeutical agent, especially in the relations of acute to chronic morphinism. In the first, he observes that both intravenous as well as subcutaneous injection of the hydrochlorate of morphine accelerates respiratory movements succeeded by a period of retardation, and produces sometimes a momentary arrest or respiratory syncope. The same relative effects occur with the cardiac movements: at first, accelerated followed by retarded pulsations; sometimes even cardiac syncope. During this time animal heat exhibits analogous phenomena, namely, the elevated is followed by lowered temperature. In fact, the absorption of morphine, whether by intravenous or subcutaneous injection, produces a very marked influence upon the reflex actions. In certain cases the period of exaltation does not occur, but immediately after the administration of the drug the temperature becomes lowered, and the respiratory and cardiac movements are slower. Though he has not finally completed his researches, M. Calvet advances the opinion, "that the above phenomena are dependent upon the integrity of the connection between the pneumogastric nerves and the encephalon, for if these two nerves are severed the above-named effects do not occur, but only the ordinary sequelæ observed after this section." In the second portion of this thesis M. Calvet offers the following interesting observations on chronic morphinism: Nutrition is deranged, the animals becoming emaciated; for instance, an animal who had received during a month a total amount of 3.52 grammes (twenty-five grains) of hydrochlorate of morphia lost almost half his weight, became torpid, had dilated pupils, walked with a jumping step, as if he had exalted sensation in the plantar surface. In this and other

¹ Thèse de Paris, A. Delahaye, 1877. Étude expérimentale et clinique sur l'Action de la Morphine.

animals the secretions of saliva and urine were very much diminished ; they died more often from marasmus or defective nutrition, but sometimes from convulsions as well-marked as those which are observed in poisoning by strychnine. The anatomical post-mortem lesions observed in these cases were in the arterial encephalo medullary region, and apoplexy in the vessels of the heart and stomach. Morphine was found in all the organs of the body, but not in the saliva or urine.

*On a New Preparation of Iodine.*¹ — This preparation contains in one fluid drachm of liquor twelve grains of cinchona flava, one grain and a half of iodine in the form of hydriodic acid, and one grain of protoxide of iron. The tannin contained in the bark does not precipitate nor change color, either by time or exposure to light ; by this fact the author contends that the mixing of the above ingredients forms a definite compound different from that usually observed in pharmacy, especially in view of the fact that these same substances otherwise combined behave quite differently. This preparation has been prepared also by Messrs. Melvin and Badger of Boston, and the above statements are well substantiated from my own experience ; the mixture, however, does not have an agreeable taste, but does not leave the disagreeable sensations so often complained of by patients taking potassium iodide. The cases in which this combination has been found most useful were for the most part those of secondary or tertiary syphilis, particularly those in which mercury had been lavishly used or “abused, cases in which it was difficult to determine to what extent the diseased condition was due to syphilis, to the abuse of mercury, or to a combination of both.” Its use is also most beneficial in all cases where a prolonged action of iodine is desirable and when its depressing effects should be avoided. Thus, it produces a favorable constitutional influence in severe epidemics of boils, in cases of scrofulous diathesis, in anæmia, and in glandular enlargement. “Some of these, intolerant of some of the officinal preparations of iodine, tolerated and were benefited by this.” Bearing in mind Melsen’s observations and experiments on the use of iodine preparations, Mr. Christopher states that “in patients who had taken mercury to salivation, but from whom all traces of the action of that drug had disappeared, salivation and tender gums reappeared almost immediately on the administration of iodide of potassium ;” his notes of cases would seem to show that the use of the present preparation is not followed by any such inconvenience. Certainly in three cases in which the reporter of this abstract has used the preparation, the good effects of the drug claimed by Mr. Christopher have been very strongly marked : one of these was a case of secondary syphilis, a second was a case of suppurative abscess in a scrofulous diathesis, the third was a case of

¹ Practitioner, May, 1877. J. Crouch Christopher.

severe and numerous indolent boils; in one, three doses of iodide of potassium made the patient so uncomfortable that the present preparation was substituted for it, and in spite of its nauseous taste was well borne for several weeks. Only half a teaspoonful was given at first, and the amount was gradually increased until a teaspoonful was given twice a day.

*Hydrobromic Acid*¹ in *Tinnitus Aurium*.² — Following the suggestions occasioned by the use of this drug to reduce buzzing in the ears caused by large doses of quinine, Mr. Woakes advises its use in those cases where the above symptom is associated with a congested labyrinthine circulation without any well-marked objective morbid process. "The indication which should be regarded as most distinctly pointing in this direction is that the noises have more or less of a pulsating or, as the patient will describe it, a knocking character. The existence of vertigo, if present, will rather confirm the indication for the exhibition of the acid." Fifteen minims of the solution in water every four hours will rapidly relieve the symptom if it proceed merely from a congested labyrinthine circulation.

Chrysophanic Acid and Goa Powder.³ — Goa powder is little else than dirty chrysophanic acid, and we therefore shall confine our abstract to the latter. The ointment is prepared by the solution of from twenty to forty grains of the acid in an ounce of lard. Its topical application three or four times a day produces no smarting and but slight and transient discoloration, no more than is seen in the complexion of a field laborer in the autumn. Care should be used to avoid contact with the lips and eyes. In a severe case of acne rosacea (tuberculous variety), Mr. Balmano Squire seems quite satisfied that a cure was effected by its energetic use, but occasionally he observed that the patient's face "became a little puffy, as if swollen."

Dr. Thomas E. Jones, however, has noticed that in two of his cases (ringworm) the topical application of this ointment (of the strength of which he does not inform us) was followed by inflammation of the skin and eyes, and discoloration of the skin; when the ointment was discontinued the inflammation gradually subsided. The testimony as to the value of this substance applied topically seems somewhat conflicting, but on the whole, if the local irritation is not too severe, cases of ringworm and non-parasitic skin diseases disappear under treatment. There is no doubt, apparently, that transient staining of the skin and nails follows its use.

¹ Fothergill's solution of hydrobromic acid is thus made: Add tartaric acid ℥ xiii. 3j. grs. xxxvii. to potassium bromide ℥ x. 3vj. grs. xxviii., and water ℥ lxxx. Tartrate of potass. falls as a white precipitate, hydrobromic acid remaining in solution.

² E. Woakes British Medical Journal, June 23, 1877.

³ British Medical Journal, 1877, pages 103, 134, 199, 245, 453, and 546. Medical Times and Gazette, 1877, pages 610 and 665.

*Salicin, Salicylic Acid, and Salicylate of Soda.*¹—The absorption of salicylic acid in an hour after its ingestion appears sufficiently proved from the fact that it can within that time be detected in the serum (obtained from vesication) and in the urine by means of a salt of iron having a large proportion of oxygen, as, for instance, the perchloride, the sulphate of the protoxide, and the potassic tartrate; the addition of either, and especially the perchloride, to a dilute solution of salicylic acid in urine produces a salmon or a violet color, according to the amount of the acid present. Normal urine does not effect this change of color with the iron salts. A patient taking from one to four grammes (fifteen to sixty-four grains) of salicylic acid will pass urine exhibiting the violet reaction with perchloride of iron solution (at 30°). The presence of albumen does not interfere with the above reaction. Examination of the sweat and saliva proves that the drug is not present in these secretions.

Dr. Bälz, of Leipzig, experimented on a patient convalescing from typhoid fever with reference to the elimination of salicylate of soda. This man had epispadias, so that the urine could be collected directly from the ureters, and thus the precise interval between ingestion and elimination could be stated. The same reagent as above mentioned was used to detect the presence of the medicament. Eight and one half minutes after five grammes (thirty-six grains) of salicylate of soda had been swallowed, the reaction on the urine was observed; in twenty-three and one half minutes the notable effect on the sense of hearing usual in intoxication by this drug was noted; in ten hours transient albuminuria appeared, and the urine voided during twenty-four hours was double the quantity collected the day before the medicine was taken. Dr. Bälz remarks that salicylic acid is never eliminated earlier than twenty minutes after its ingestion; hence he infers that its salt is more rapidly absorbed than the acid. This inference seems to be supported by the clinical experience of other observers, who have remarked that larger doses of the salt are required than of the acid to produce the therapeutical effects.

¹ Jour. Anat. and Phys., July, 1877, Ringer and Burg. British Med. Jour.: Pinnock, Feb. 24, page 229; Squire, Mar. 10, pages 292, 428; Carafy, Apr. 28, 510; Macdonald, June 16, 738; Murchison, 746. Lancet: Carter, Jan. 6, 6; Bradbury, Feb. 10, 196; Pollock, 24, 272; Beeby, Mar. 3, 313; Sawyer, May 12, 683. Medical Times and Gazette: Lawson, Jan. 6, 8; Ringer, 9; Down, Cholmeley, 27, 89; Francis, Feb. 3, 115; Weber, 131; Ramskill and Sansom, Feb. 24, 198; Dale, May 19, 538; Jacob, May 26, 570. Practitioner: Napier, June, 410; Stuart, June, 425. Société de Gand, Bulletin, Villemin, Mar. 111. Mouvement médical: Jan. 20, page 33; Mar. 17, 24, pages 170, 185, 240. Thirion, June 2, 9, 16, 27, 30, pages 285, 223, 238, 252, 265, 275. Allgem. med. Cent. Zeitung: Stricker, Feb. 17, Apr. 28, May 2, 162, 404, 418; Kohlmann, Mar. 7, 219; Zeller, May 23, 503. Fleischer, Deutsches Archiv, Bd. xix., page 59, Weckerling 319. Allgem. Wiener Zeitung, Apr. 17, 138. Berliner Wochenschrift: Müller, Jan. 15, 29; Senator, Apr. 9, 199. Archiv der Heilkunde, xviii., Hft. 1, 3, 4, Bälz, pages 60 and 345.

Dr. Bälz obtained proof of the presence of this drug also in the bronchial secretion, but not in the saliva or sweat. Its subcutaneous injection causes local pain, sometimes abscess, and patients very decidedly object to this method of application; after enemata (five per cent. solution), salicylic acid or its salt is readily absorbed provided the injection be made cautiously and without violence.

From a careful review of the literature of the last six months the antifebrile action of this drug seems very uncertain. Sometimes a rapid fall of temperature after a sufficiently large dose is succeeded by a rapid and excessive elevation; quinine has apparently much greater influence in controlling high temperature.

It is quite evident that large doses (ten to twenty grains every two hours) of salicylic acid and its derivatives are required to produce relief to unfavorable symptoms; and yet caution must be exercised to avoid dangerous or poisonous effects, such as ringing in the ears or deafness, frequent pulse, high temperature, panting respiration, profuse perspiration, delirium, and imminent collapse. These signs of intoxication were observed by Weckerling in a patient having a severe pleurisy with effusion, but disappeared two days after the discontinuance of the medicine. The increase of bodily temperature noticed in the above case is corroborated by other clinical observers: for instance, in a case of rheumatism the temperature (axillary) was 101° before the administration of one hundred and twenty grains of salicylate of soda during twenty-four hours, but afterwards mounted to 103° and 104° ; salicin was then substituted in the dose of fifteen grains every two hours, and hot fomentations were applied to the inflamed joints; in spite of this treatment, the temperature continued to increase until at the close of the third day it had reached 107° . The case was then treated by the cold pack; in two hours the temperature fell to 101.6° , in five hours to 101.2° , and the patient was very much relieved. The next day the temperature again rose, and, in spite of twenty-grain doses of salicin every hour, at noon the thermometer indicated 105.8° , and at four o'clock 106.8° . Then one hour's application of the cold pack brought the temperature down to 100.6° . Mr. Daruty, by whom the above case is reported, has used salicin successfully in many other cases of rheumatism, and seems fully convinced that in the above instance it proved of scarcely any value. The temperature became normal in about three weeks from the onset of the fever, and throughout the attack there was an absence of cardiac complications.

Dr. Russell concludes from his experience with this drug that in those cases of rheumatism in which the attack is destined to have only a short duration, and wherein the resisting force of the disease is low, salicylic acid will hasten the recovery, but reports five cases in which the same poisonous action as above observed resulted from the use of

the drug, and ceased in twenty-four hours after the medicine was stopped. In one of these cases, however, the patient did not recover, though the temperature decreased before death.

Mr. Carter reports two very severe cases of rheumatic fever, associated with the high temperature of 105° to 107° F., in which salicylic acid failed to reduce the fever but seemed to induce wild delirium. One of these patients died before the effects of a cold bath could reduce the high fever, and the other was treated by the bath, being immersed in water at a temperature of 93° F., which was gradually cooled during twenty-five minutes to 75° F. This was followed by a rapid fall of the body temperature and relief to the unfavorable symptoms. This patient recovered. His experience would lead him to infer that when rheumatism is associated with a high temperature (107° F.), no medication, either of quinine, digitalis, or salicylic acid, will remove this symptom. The cold bath alone will produce a favorable change.

In another case, in which twenty-five grains of salicylate of soda were given every two hours, the fever persisted even though signs of intoxication were observed; the patient did not recover from the high temperature for three weeks, and then was left with a stiff wrist.

Dr. Pollock mentions two intractable and fatal cases with continuance of high temperature.

Dr. Beeby mentions one fatal case of rheumatism, in which the persistent use of salicylic acid and salicin did not lower the temperature, which immediately after death indicated 111° F. The cold bath was not used. In his experience this drug produces no beneficial result either in the prevention or cure of pericarditis, pleuritic effusion, or chronic rheumatic pains. The use of salicylic acid and salicylate of soda has been assayed in other affections where inflammatory action of the mucous surfaces was accompanied by offensive discharges. These cases are few in number, but the result promises well for a more extended trial.

Pulmonary Gangrene. — A case is reported where, after the failure of large doses of quinine and inhalations of turpentine, fifteen grains of salicylic acid were prescribed during the day, and in three days the fetor had disappeared and the temperature had fallen from 39° C. to its normal point. The continuance of the drug in fifty-centigramme (seven-grain) doses was followed by diminished expectoration, disappearance of dullness at the apex of right lung, and restoration of the respiratory sound. After a few weeks' stay in the country, the patient returned without cough and in good flesh.

Catarrhal Stomatitis. — Five cases in which salicylic acid was used were absolutely free from ulcers on the mucous surface of the mouth and tongue in two days; and the disagreeable sensation of pain, etc., caused by the erosions rapidly ceased.

Dysentery. — In dysenteric inflammations accompanied with tenesmus and bloody stools every fifteen minutes, enemata every four hours of

Salicylic acid	1 gramme.
Distilled water	300 grammes.
Alcohol	q. s.

gave decided relief to the tenesmus, rapidly reducing the number of stools; the bloody and mucous discharges were replaced by yellow dejections; the appetite improved, and the normal temperature returned. The effect of the drug, as suggested by Berthold, is explained by its arresting fermentation and by the consequent suppression of ulceration and suppuration of the intestinal mucous surface.

The experiments of Dr. Ringer and Mr. Bury on healthy subjects directly prove that in order to obtain any symptom characteristic of the action of salicin, thirty or more grains must be taken hourly, or one single dose of sixty grains. In these subjects no effect on temperature was produced except what might be attributed to a slight fever induced by catarrhal inflammation of the primæ viæ. The sweat became alkaline or neutral, the pulse was quickened to 140 per minute, and its force was diminished. The symptoms of intoxication previously described by clinical observers as affecting the nerve centres was also noticed by the above experimenters.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

OCTOBER 14, 1876. *Prolapse of the Cord.* — DR. MINOT reported the case. The patient, who had borne two children previously, was taken in labor early in the morning of July 31st. At five A. M., the os was found to be somewhat dilated, and a loop of the cord was felt pulsating just within it. At eight A. M., a large quantity of cord came down into the vagina, pulsating feebly and slowly. The membranes were entire. The patient was etherized, the whole hand was introduced into the vagina, the cord was pushed up and held above the head. The membranes were then ruptured, the head came down with the rush of liquor amnii, completely filling the pelvis, and no further trouble from the cord was experienced. The child was born at noon, in good condition. Dr. Minot said that he had once before treated a similar case in the same way, with like result.

Tedious and Difficult Labor. — DR. WELLINGTON reported the case. The patient, a stout, short person, thirty-five years of age, was taken in her first labor on Thursday evening, August 31st. She kept about the house till Saturday, when she took to her bed. Dr. Wellington first saw her Sunday evening, the pains having occurred throughout about every fifteen minutes, not very severe, but troublesome. The head was found presenting, very high, and the os was slightly dilated. The patient went on in the same way till

Tuesday noon, when the head had worked its way into the pelvis, where it lay with the face to the pubes. Dr. Marcy was asked to see the case, and he suggested turning the face to the sacrum. The patient having been etherized for the purpose, this was accomplished, after several ineffectual attempts, by combined external and internal manipulation. There was, however, no progress, and the forceps were put on. After an hour's hard work by both attendants, the head was delivered, and after this the shoulders gave considerable trouble in extraction. The child was not vigorous, but was ultimately restored. It weighed twelve pounds, and the sutures of the skull were firm, the bones scarcely lapping. It lived three days and had several convulsions, in one of which it died. No urine had been passed and none was found even in the bladder, the secretion having been entirely suppressed. The perinæum of the mother was ruptured to the sphincter ani. There was a deep laceration of the vagina, posterior and on the left side, three inches in length, and a less extensive one in the interior wall. Sutures were put into the perinæum and the patient was left. In two days the perinæum was looking black and gangrenous, and there was a copious, very offensive discharge. The stitches were removed. There was a good deal of pain and fever; the temperature was 102° F., and the pulse 120. The urine was drawn by catheter for three weeks, and the wounds were freely washed with solutions of carbolic acid. Tonics were administered. The patient is not yet well, but the case is apparently going to result much better than was feared at first.

A Case of Labor; the Child Hydrocephalic. — DR. TUCK mentioned the case of a delicate, rather unhealthy-looking French woman, aged thirty-five, whom he attended in confinement. Early in the morning he found the os about an inch in diameter and the head presenting, but the latter did not feel exactly as it should, and Dr. Tuck questioned whether he had to do with a case of hydrocephalus. In the afternoon the pains, at first not very vigorous, gradually became stronger but without much effect on the progress of the labor. One drachm of the fluid extract of ergot was administered as a measure preliminary to the application of the forceps, but the latter were unnecessary as the pains soon become strong enough to expel the child. This was markedly hydrocephalic, and had spina bifida. It lived forty-eight hours. The mother did well.

Vaginismus traced to Spasmodic Turgescence of the Clitoris. — DR. CHADWICK read the case.

Repeated Miscarriages from Diseased Placenta. — DR. FORSTER exhibited a foetus and placenta recently delivered from a patient of whom, at meetings of the society, previous mention had been made as a subject of repeated miscarriages from diseased placenta, the present being the thirteenth instance in her case. The disease of the foetus and placenta has been described as syphilitic, but the woman has never had any other evidence of symptoms of syphilis. Dr. Forster said that an anti-syphilitic treatment had been pursued, but irregularly, owing to the neglect by the patient of the directions given to her.

DR. FITZ remarked that the appearances were quite similar to those of a year ago. The present specimen showed a marked constriction of the cord near its foetal end, a peculiarity which has been associated with syphilitic

cases. The nodular condition of the placenta was more extreme than before, and the condition of the bones was of the same character. Dr. Fitz stated, in answer to a question, that the period of time between the death of the fœtus in utero and its birth is in part estimated by the maceration of the cuticle, the discoloration of the skin, and the laxness of tissues, due essentially to the di-placement of fluid. In answer to another question, Dr. Fitz said that fatty degeneration of the placental villi as a cause of the death of the fœtus in Dr. Forster's case could be considered only as secondary, the primary state being a thickening and cellular infiltration of the villi.

DR. STEDMAN said: Some months ago, in connection with specimens shown here of diseased placenta, I reported the case of a primipara whose urine was loaded with albumen and casts, and who had dropsy, vomiting, diarrhœa, and headache. The child was still-born at the eighth month, and the placenta was studded with caseous-looking masses. The patient recovered in good time. Last week I saw a woman at forty who had had four children, none living now. The complexion was pasty, with headache, much anasarca, urine heavy with albumen. She was confined at about the seventh month. The child, though puny, was lively, but died, twelve hours after birth, of hæmatemesis. The placenta had several large nodules in its substance, one of which I cut out and asked Dr. Edes to look at. He reported that the mass was one of dead placental tissue simply.

DR. ABBOT, in reference to the question how long an interval of time is necessary after the death of the fœtus to produce exfoliation of the cuticle, said that he was recently called to a patient about to be confined, who was very large and uncomfortable from excessive distention. On examination in the afternoon he heard the sounds of the fœtal heart distinctly; and the patient stated that she felt the motion of the child subsequent to the visit. On the second day after a large dead child, weighing about ten pounds, was born. In the process of delivery there was considerable delay in the passage of the shoulders, and when they at length came a sheet of cuticle was peeled from the entire abdomen. During three or four weeks before labor, dating from an attack of cholera morbus, the motions of the child had been growing gradually feeble, and for the last week had been scarcely perceptible. The sagittal suture was unusually wide, as if from distention by an excessive amount of serum in the brain, and the abdomen was somewhat enlarged. The child was plump, and there was no appearance of maceration of the cuticle. The labor was a hard one, there being scarcely any liquor amnii. From the positive data of this case the child could not have been dead more than thirty-six hours previous to delivery, and possibly not more than twenty-four.

Induced Labor for Obstinate Vomiting.—DR. MINOT reported the case, which was under the care of Dr. Wellington and himself. The patient was in an extremely nervous condition, with depression almost amounting to insanity. The vomition was uncontrollable, and it was thought that the induction of labor was necessary in order to save her life. Dilatation of the os with the finger was tried repeatedly without effect. The application of iodine to the cervix was also of no avail. Three sponge tents were then introduced, one

after the other, when labor came on, and the contents of the womb were expelled. All symptoms ceased, and the woman rapidly recovered. The same patient had suffered in a similar manner a few years ago, and was relieved by the same treatment, by Dr. Minot; but during her first pregnancy, about ten years ago, she was perfectly healthy. There was nothing abnormal in the condition of the cervix or os, so far as could be ascertained, while she was suffering from the nausea and vomiting.

DR. SINCLAIR said that in the last number of the *British Medical Journal* the oxalate of cerium and Copeland's method were stated as the means most relied upon in such cases.

DR. LYMAN alluded to a case, to be reported hereafter, in which a pelvic peritonitis followed the introduction of the uterine sound.

DR. REYNOLDS asked whether the fact of the introduction of the sound had necessarily any important bearing on the case. Might not the dilatation of the os by sponge tents be in itself enough to explain the history?

DR. SINCLAIR stated that in two instances he had known sponge tents to produce similar effects, resulting in very severe attacks of pelvic peritonitis or peri-uterine inflammation, which in one of the cases proved fatal. He mentioned the case of a patient who took cold on a damp afternoon just at the close of a menstrual period. This resulted in severe pelvic inflammation, followed by purulent discharge from the rectum, with which the patient was sick several months. She was afterwards married, now many years since, but has never had children.

DR. WELLINGTON asked Dr. Lyman what he understood by the expression "taking cold."

DR. LYMAN responded that after improper exposure the perspiration was checked, the patient feeling a slight chill followed by a febrile reaction, symptoms which in popular parlance signify catching cold.

DR. REYNOLDS said that he became daily more convinced of the paramount importance of securing to the lying-in patient repose, both of mind and body, to insure her a thoroughly good recovery.

Great concern is always shown to protect the lying-in woman against "taking cold." But in by far the greater number of cases accidents are to be attributed not so much to change of temperature as to early fatigue or to undue excitement.

A case of acute peritonitis, fatal on the third day, which came under his observation two years ago, strikingly illustrated the point in question. A young healthy primipara, confined in the depth of winter in a room without carpet or fire, had a moderate labor and was found on the third day after exceptionally comfortable; but shortly after the visit, probably from irritation at the neglect of those about her, she sprang out of bed, turned the mattress, and put the bed in order. Within an hour severe symptoms appeared, which rapidly increased till her death, three days later.

As an instance of gross disregard of that care which every such patient needs, and an example of the risk incurred by such exertions, the case had very much impressed him.

DR. WELLINGTON remarked that most diseases begin with a chill; on this

account their origin is usually attributed to exposure to cold, whereas in reality, in three fourths of the cases, no such exposure has taken place.

Dr. Bixby said that some few years ago, while he was treating a patient for what seemed to be an unusually mild form of endometritis, a chill occurred quite unexpectedly, with pain and tenderness in the abdomen, and the patient went through a severe attack of acute peritonitis, lasting four weeks, but finally made a good recovery. Later, while under the care of another physician, an attempt was made to cure the existing sterility and dysmenorrhœa by means of sea tangle tents. A sharp attack of peritonitis immediately followed, from which she recovered with difficulty. A third attack occurred within the last five months from exposure. Dr. Bixby found that this patient belonged to a family subject to peritonitis. Two sisters had died of the disease which, in one of them, had a puerperal origin.

Dr. Bixby remarked that some uteri which are fixed bear handling well, while others are to be managed with extreme caution, from the risk of setting up inflammation.

DERMATOLOGY.

THE recent meeting of the American Dermatological Association, an account of which we gave in our last number, is an event of sufficient importance not to be passed over unnoticed by the medical profession. Of the many specialties which are represented by formally constituted bodies, none perhaps cover so wide a range of subjects of interest to different classes of practitioners as dermatology. The communications at the recent inaugural meeting are of value alike to the physician, the surgeon, the hygienist, and the scientist. A glance at the discussion will dispel illusions in regard to the supposed narrowness of the subject, and to the general practitioner it is suggestive of a knowledge of the nature and treatment of the diseases of this organ which we think have not been fully appreciated. There is a tendency among many physicians to undervalue the work of these specialists, and an indisposition to yield ground in this direction as they have already been obliged to in others. It is due largely to the fact that skin affections are probably more imperfectly understood and poorly treated than any other form of disease, and that many of these finally fall into the hands of the quacks. There is a fair prospect that the much-needed remedy has been applied, and that the profession in this country contains a sufficient number of highly educated and competent physicians to diffuse the necessary knowledge. Great progress has been made in the teaching of this branch during the last quarter of a century, as was pointed out by the president in his address, and as was amply shown by the work of the society.

In the skin we have a most convenient organ for the study of the natural history of disease and the changes produced by the action of numerous drugs. The facilities for this study are, however, not as great as they should be. We have nowhere such opportunities as are offered at the clinics of the great teachers of Europe, and our dermatologists have, as they assert, a just cause of complaint against many of our large hospitals for ignoring the necessity of providing for this class of disease on a scale which modern science demands.

We have reason to be proud of the work which these specialists have accomplished in spite of all obstacles. They have established the *Archives of Dermatology*, one of the best periodicals which we have. A member of the association has produced a text-book and atlas, which are standard volumes. A great deal of excellent scientific work has also been done. Their efforts should meet with the encouragement which is their due. The influence upon the profession at large of really good society work, such as has been accomplished at the late meeting, cannot fail to be beneficial, and we welcome with satisfaction the new comer in the ranks of our medical societies.

MEDICAL NOTES.

— We call attention to the notice elsewhere of the meeting of the censors of Suffolk District for the examination of candidates.

— *The Clinic* reports from the *London Medical Record* the statement of Professor Xavier Landerer, of Athens, that a very popular remedy against seasickness, in common use among the mariners in the Levant, is the daily internal use of iron. This is obtained in a very primitive way: a portion of the iron-rust adhering to the anchor and anchor-chain is scraped off and administered. At the same time a small pouch containing roasted salt and flowers of thyme is tied upon the region of the navel as firmly as can be borne. This is said to lessen and gradually to subdue the antiperistaltic motions of the stomach caused by the rolling of the vessel. This preparation was already known to the ancient Greeks as "thymian salt." M. Landerer says that he knows several seamen who have been cured by this treatment.

— Of two hundred persons belonging to the Russian Red Cross Society not less than forty are reported to have been killed during the performance of their duties in succoring the wounded and removing them from the field of battle. It seems incredible, says *The Lancet*, that at so early a period of the war so large a loss of life could have been experienced in carrying out this duty.

— *The Medical Times and Gazette* (September 1, 1877, page 239), commenting upon the recent deaths caused by chloroform, says: "But — and on this we would insist — *nothing will prevent deaths but a careful administration* in each and every case. Those who are giving the anæsthetic should do nothing else, and they ought always to bear in mind that they are administering a drug which is dangerous to human life and ought to act accordingly." Another very simple and thoroughly efficacious precaution suggests itself. *Punch's* advice to people about to marry was, Don't. We would similarly recommend to our English brethren to try abstention from the use of chloroform as an anæsthetic. Perhaps this novel idea, which does not seem to have occurred to the author of the remarks quoted above, may, if carried out, prevent the repetition of the deaths during anæsthesia which have lately been taking place with such startling frequency in England.

— Dr. A. Seeligmüller, in the *Medical Times and Gazette* of August 25, 1877, recommends the chlorate of potash in saturated solution as a specific remedy against diphtheria. His paper concludes with the following summary of his observations: —

(1.) The chlorate of potash administered in saturated solution (five per cent.) has a specific effect on diphtheria.

(2.) It must be given in a solution of ten grammes in two hundred grammes of distilled water, without adding any syrup or any other substance to ameliorate the taste.

(3.) This solution is to be ordered to infants under three years at half a spoonful, to elder ones at a whole spoonful, every two hours (if the malady is very grave, every hour), at first *day and night* without interruption.

(4.) This internal medication *alone* will suffice in all cases.

(5.) The saturated solution of chlorate of potash exercises (*a*) a topical action and (*b*) a general one on the diphtheritic process: (*a*) a topical one as a mild cauter, and by separating the diphtheritic pseudo-membranes from their basement membranes; (*b*) a general one, supplying the oxygen withdrawn from the blood corpuscles by bacteria, and destroying these organisms.

(6.) Caution is required lest the saturated solution may act dangerously on the heart or digestion. When such symptoms occur the administration must be suspended.

— We learn from *The Lancet* that the medical officers of the Russian army are forming a fund for the support of the widows and orphans of their brethren who may be killed, or otherwise succumb, during the war. The capital is to be formed by contributions on a given scale from the pay, and by a deduction of pay on appointment.

LETTER FROM LONDON.

MESSRS. EDITORS, — In talking with one or two graduates and teachers of the Edinburgh University, I have learned of the existence there of an interesting regulation affecting the position of instructors, in the medical department at least, which obtains, so far as I know, scarcely anywhere else. It appears that besides the regularly appointed corps of teachers, any person, after proving himself to be properly qualified before a certain examining board, may open rooms and hold courses of lectures on any subject, attracting from the regular lecturers as many students, with their fees, as like to come to him, and his instruction must be accepted by the diploma-giving body as the equivalent of that provided at the established courses.

According to one of my informers, this regulation was pressed upon the university a number of years ago by the city government, rather against the will of the faculty, but is now almost universally admitted to be a source of vigor and progressiveness. Under the impersonal, and therefore merciless, judgment of the students, inefficient teachers gradually give place to better men, and strong workers, who feel that their merit is greater than their reputation, are attracted into the field.

This arrangement is not, at the same time, found to be so unfair towards the regularly appointed instructors as would at first appear. All the advantage which is given by prestige is on their side, and further, though they lose their fees on the defection of their students, they continue to receive their salaries.

In the London schools it often happens that the rising lecturers are forced,

for some years, to teach subjects in which they are not especially interested, passing from one to another, whereas in Edinburgh an able man has the whole field open to him at once. Thus a rising surgeon of Edinburgh said to me that, some years ago, he had been offered a position in one of the London hospital schools, but on learning that he would have to teach at first some branch, I forget which, from which his predecessors had passed on to something more to their taste, he declined the offer, saying that he had already been teaching anatomy for several years, and was about to take up surgery in the next.

The London fashion of having many small schools, each attached to a hospital, must, it would seem, be on the whole a good thing, both for the students in giving them greater opportunities for clinical study, and for the younger medical men in offering so many chances for advancement, but it is said to be objectionable in the respect that it makes it difficult for the really exceptional men to have the audiences which they deserve.

In Paris, on the other hand, where it is said upwards of seven thousand students of medicine congregate yearly, the evils of too great concentration are manifest. It is to be hoped that the plethora will be relieved somewhat by the opening of the new school at Lyons.

Yours truly,

JAMES J. PUTNAM.

LONDON, August 22, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 8, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	539	26.19	27.46
Philadelphia	850,856	274	16.74	22.88
Brooklyn	527,830	249	24.53	24.31
Chicago	420,000	150	18.57	20.41
Boston	363,940	163	23.29	23.39
Providence	103,000	48	24.23	18.54
Worcester	52,977	21	20.61	22.00
Lowell	53,678	15	14.53	22.21
Cambridge	51,572	22	22.07	20.54
Fall River	50,372	32	33.03	22.04
Lawrence	37,626	18	24.85	23.32
Lynn	34,524	12	18.07	21.37
Springfield	32,976	5	7.83	19.69
Salem	26,739	10	19.45	23.57

BOOKS AND PAMPHLETS RECEIVED. — The Medical Intelligencer, No. 4. Philadelphia: Lindsay and Blakiston.

A Condensed Classified List of Works on Medicine, Surgery, and the Collateral Sciences, many of them at greatly reduced prices. Philadelphia: Lindsay and Blakiston.

WE have received the Physician's Visiting List for 1878 from Messrs Lindsay and Blakiston, of Philadelphia. We have found it very convenient. It was the first and for many years the only book of the kind published in this country. For sale by booksellers and druggists, or mailed free of postage by the publishers.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, SEPTEMBER 27, 1877. — NO. 13.

A CASE OF PECULIAR UNILATERAL TREMOR FOLLOWING HEAD INJURY.

BY ALLAN MCLANE HAMILTON, M. D.

E. B., aged thirty-six, born in Ireland, by occupation a blacksmith, is a stout, well-made man of nervous temperament, and up to the commencement of his present trouble had enjoyed uninterrupted good health. He has not had syphilis, and his habits have been good. His mother and father are dead, the former having died of old age and the latter of phthisis. There is no family history of insanity, epilepsy, paralysis, nor of any organic nervous trouble whatever. Ten years ago, while working upon a fire-escape, he fell to the ground, two stories below, striking upon his head and shoulder. He was taken up unconscious, and remained so for fourteen hours. The only injuries he received were two severe scalp wounds, one of which from its slowness in healing must have been attended by some bone injury, for he was unable to resume work until three months later. He says that purulent accumulations took place and that "the doctor lanced them." Two cicatrices are now visible, one of which is about an inch and a half long and is situated on the left side of the head, and covers a depression about three quarters of an inch in diameter and one quarter of an inch in depth, the centre of which is about one and one half inches below the median line, five inches above the left ear, and four and three quarters inches above the centre of the left supra-orbital arch. This is the only depression visible, and the injury on the right side was apparently very superficial.

He gives no history of serious head symptoms, and when he resumed work was in good condition, there being no paralysis. About three months later he noticed a tremulousness of the fingers of the *right* hand, and afterwards of the arm of the same side. There was no pain nor loss of power, but simply a marked tremor whenever he attempted to do anything. This difficulty increased to such an extent that he was obliged to resign his position as first-class workman and become a helper, using his other arm to work the bellows. About six months after this the tremor affected the right leg, and he was obliged to leave his work.

Present Condition. — The patient does not complain of head symptoms, except a slight hyperæsthesia of the right side of the face, of short duration. Vision normal; fundus of either eye presents no abnormal appearances; pupils respond well to light and are of equal size. Hearing unaffected. No tremor of face or tongue, speech unembarrassed, memory good, and no intellectual trouble whatever. He has never had headache.

Upper Extremities. — Left side unaffected. The right hand and arm are perfectly quiet during inaction, but when the most simple voluntary act is attempted they become agitated by a fine rhythmical tremor, which becomes more marked as the accomplishment of the act requires greater nicety of coördination. When he is asked to carry a glass of water to his mouth he spasmodically grasps the vessel and carries it upward, the elbow being raised, the tremor meanwhile increasing until the mouth is reached, when the movements become so violent that he is unable to place the rim of the glass between his lips. Certain motions are almost entirely unattended by tremor. He can extend the arm and hand, or can hold them rigidly upright, and is able to pronate the hand, but movements of *flexion* are attended by increased violence of the tremor. Tactile sensation is somewhat impaired, but susceptibility to painful impressions is not diminished. There is absolutely no loss of muscular power, no atrophy of the hand or arm, the thenar eminences being covered by firm cushions, and the interosseous spaces are well filled.

Lower Extremities. — The left leg, like the arm, is in no way affected. The right leg, however, is agitated by muscular tremor when he attempts to use it, or approximate it with its fellow, as in standing erect. There is no loss of muscular power, but some anæsthesia, the patient being unable at any place to distinguish two points of the æsthesiometer unless they are separated by at least eight centimetres.

When he stands with his eyes closed he is “groggy,” but does not fall. He can stand upon the right foot alone, but not upon the left. When he walks the right heel is brought down first, so that the heel of the shoe is much worn. He has some plantar formication and coldness of the foot. He has suffered from pains of a pseudo-neuralgic nature in the right shoulder and right thigh, which were centrifugal, as well as some pains which darted from the heel up the inner side of the leg. The pains in the upper extremity are not so frequent as they were a year ago. There has been no history of body-constricting band, pain in the back, or vesical trouble of any description, but for the past five years he has been constipated and obliged to take purgatives. There are no contractures whatever.

The peculiarities of this case seem to be the unilateral tremor (not disorderly movements) excited by voluntary exertion, its predominance in

flexion, while certain movements of extension are almost unattended by any embarrassment, the absence of muscular weakness, contractures, or atrophy, and the evident dependence of the trouble upon a localized cerebral injury of the opposite side, which probably resulted from the fall.

I am unable to arrive at any conclusion which would lead me to consider the symptoms due to cerebro-spinal sclerosis, or one-sided posterior spinal sclerosis, if the latter anomalous condition could exist. The utter absence of loss of power and permanent contraction of the affected limbs, and the non-extension of the affection to those of the other side of the body within ten years are sufficient to invalidate such a diagnosis.

The non-occurrence of convulsions and other symptoms of cerebral tumor renders this as a cause of the tremor quite improbable.

Of course the assumption that this patient's symptoms are due to some irritative meningeal or cortical lesion must be based upon purely theoretical grounds, but the features of the case convince me that such a condition of affairs is by no means improbable. If we take the trouble to consult the charts given by Hitzig and Ferrier we shall find that they have assigned a cortical region which is "situated on the ascending frontal, just behind the upper end of the posterior extremity of the middle frontal convolution," which "is the centre for the movements of the hand and fore-arm in which the biceps is particularly engaged, namely, supination of the hand and flexion of the fore-arm."¹ Again, if we study the admirable article of Turner² we shall find very useful hints which will enable us to lay out the exterior of the cranium into regions corresponding with the convolutions beneath. One of these areas, which has been called the "upper antero-parietal space," includes the ascending parietal and ascending frontal convolutions, and an injury at the point I have located in describing this case would be just about over the centre, which, when experimentally irritated, produces movements of flexion and supination.

It is quite reasonable to suppose that this irritation occurring with volitional movements is due to a natural increase in the blood pressure during mental activity, a consequent increase in cerebral volume, and a resulting contact with the depressed portion of bone, which probably does not impinge upon the cranial contents at ordinary times.

2 EAST THIRTY-THIRD STREET, NEW YORK.

¹ Functions of the Brain, page 307.

² Journal of Anatomy and Physiology, vols. xiii., xiv, November, 1873, May, 1874.

NERVOUS SYMPTOMS SECONDARY TO SLIGHT GASTRIC DISTURBANCE.

BY S. G. WEBBER, M. D.

It is by no means always easy to unravel the complicated relations of cause and effect even in apparently very trivial cases. The viscera, above all the abdominal viscera, are not abundantly supplied with sensitive nerves, and disturbance of function, unaccompanied by organic lesion, may give rise to so slight local symptoms that the patient entirely overlooks them; especially is this true if other secondary symptoms, producing great discomfort, mask the primary affection. It is chiefly or only in the comparatively trifling affections of the viscera that this is true; serious lesions are revealed by such marked symptoms that they are not likely to be overlooked.

The manner in which the secondary symptoms are produced must be varied. The quality of the blood may be changed and hence the nutrition of distant organs may suffer; there is loss of vigor, or actual structural change. This is the case in kidney disease; cerebral symptoms may be the first to attract attention; the blood is poisoned by retained excrementitious substances. The same may be true in disturbances of the digestive organs from the retention or reabsorption of excretions.

But there is less liability to error of diagnosis in these cases than there is in another class, wherein there seems to be no blood poisoning and where there is little or no derangement of nutrition. It appears reasonable to believe that often the nervous system furnishes the path by which the abnormal influence is conveyed to distant organs; whether discomfort is caused by the action of the vaso-motor nerves upon the blood-vessels, or by an irritation of the nerve centres themselves and thereby through reflex influence, it may be impossible to decide in every case.

Let the afferent nerve, whether sympathetic, pneumogastric, or spinal, convey an irritation to the central organ, and that irritation, if of sufficient strength, may in turn arouse the nerve centre of a different region, and the secondary irritation, experienced in a nervous centre which is more irritable or less stable than that originally excited, is manifested by spasmodic action or by a sense of discomfort which may amount to severe pain. Yet the primary irritation is not sufficiently strong to awake consciousness. There is nothing new in this, and my object is merely to call attention to two or three characteristic cases, patients who came to me or were sent solely on account of nervous disturbances without any attempt having been made to regulate the digestion. It is not strange if we sometimes overlook disorders which produce no symp-

toms, or where their symptoms are so thrown into the shade that the patient takes no thought of them. In none of the cases to which I shall refer did the patients themselves give more than a secondary importance to the derangements of the digestive organs.

Headaches and other cerebral symptoms are common after irregularities in diet, but Anstie says that it is "exceedingly rare for irritation conveyed from the alimentary canal to take any important part in setting up neuralgia of a distant nerve." He refers to Valleix as making the same statement in case of neuralgias of the head. Other authors include gastric and intestinal irritation among the causes of neuralgia.

In the case of a patient affected with neuralgia, the pain shifting from one region to another, now in the legs, now in the back, arms, face, or head, with each attack forsaking the former locality and appearing elsewhere, I was led finally to refer the pain to gastric disturbance as a cause. Tonics and various anti-neuralgic remedies proved only temporarily of benefit; at length it was noticed that there was during each attack a sense of abdominal fullness. There was little or no distress after eating and only occasionally undue acidity of the stomach. Various remedies were then used with a view to correcting the disease of the digestive organs. Those directed to the stomach, such as quinine, pepsin, mineral acids, and charcoal, gave a temporary relief only, and it was necessary to change from one to the other, but during this time it was difficult to persuade the patient to carry out the directions given about exercise and diet. Finally small doses of calomel and strychnia gave more favorable results, in part, perhaps, because more care was used by the patient in regard to both exercise and diet. After this there was a very great improvement, the neuralgic attacks were much less frequent and intense, and none of any severity have been experienced for several months.

In this case the coincidence of neuralgia with flatulence and the fact that both yielded when attention was directed to the digestive organs would show that the neuralgia was secondary to the dyspepsia. Yet it is certainly true that there was a condition ready to develop neuralgia in the patient's state of health.

And so in other cases of nervous disturbance secondary to disease of the viscera there is probably a state favorable to the appearance of the secondary symptoms. In the following case excessive smoking combined with hard work and mental worry to develop the required condition. That hard work and mental worry were only predisposing causes may be inferred from the fact that they continued to act after tobacco was given up and the stomach was cared for, but the nervous symptoms did not return.

The patient was a lawyer who was troubled with distressing sensations, pressure at the occiput, slight pain in the forehead, sometimes

dizziness, tingling in various parts, mental lassitude, a tired feeling, and "the blues." There was also a sense of oppression at the epigastrium, with acid eructations and belching of wind. At times the heart beat violently, and there was a slight pain in the cardiac region; there was no pain in shoulder or in arm. He smoked one cigar in the morning, one at noon, and several in the evening; he also drank strong tea and coffee. Under treatment directed to the digestive organs and by diminishing the number of cigars to one a day, which he cut into three pieces to smoke at the usual hours, he greatly improved. Several months later there was a little discomfort on lying down, especially if the stomach was full. This finally disappeared.

In another case the gastric disturbance was not so well marked, yet I have no doubt it was one chief cause of the cerebral symptoms. A lawyer overworked himself, neglected exercise, was irregular at his meals, ate rapidly, and went to work immediately after. He suffered from headache, dizziness, and various unpleasant sensations, weakness and loss of mental power. None of the symptoms were very severe, but combined they nearly deprived the patient of the power of working. He thought his digestion was good, and was not aware of any dyspeptic symptoms, but at times there was a slight nausea, and the urine immediately after passing was cloudy from a granular deposit. Subsequently, perhaps because his attention had been called to the stomach, he noticed more decided dyspeptic symptoms. It was by no means easy to separate the effects of overwork from those of indigestion, but I was strongly inclined to believe that taking hurried and irregular meals at eating-houses, with food probably not too well cooked, was really the cause that the hard work proved injurious. This patient was rather unmanageable: he found it difficult to take twenty minutes for dinner; exercise was a burden to him; he could not endure taking medicine regularly. Nevertheless, with a short vacation, quinia, extract of *nux vomica*, and hydrochloric acid the urine cleared up, the headache ceased, and his condition greatly improved, but during the last three years he has repeatedly disregarded cautions and has had a return of the old symptoms.

A patient now under treatment illustrates more strikingly than those just referred to the connection between cerebral symptoms and irregularities in the digestive organs. But there was also overwork and anxiety, with disregard of all hygienic rules so far as concerns eating. The dyspeptic symptoms first appeared and were not heeded until cerebral symptoms were developed.

But because there are cerebral and gastric symptoms coexisting one must not jump at the conclusion that the latter are the cause of the former. Just the opposite may be the case. Most cases of sick headache are purely nervous in origin. Many patients refer them to de-

rangement of the stomach, probably because there is vomiting and because imprudence in diet is an exciting cause of an attack; but other disturbing influences, as severe mental application, loss of sleep, etc., may cause an attack independently of all imprudence in diet. Thus a patient who had been troubled with attacks of vertigo, sometimes with vomiting, often with nausea, found that attacks were caused by eating fried food, sitting up late, attending concerts, a strong wind from a certain point of the compass, noises, a bright sun, and by looking at certain motions as that of the waves. There was a similarity to epilepsy in the attacks, but a stronger resemblance to migraine. There was apparently no indigestion; between the attacks the health was excellent; there was no heart-burn, no acidity of stomach, no flatulence. Remedies directed to improving the digestive powers did little or no good; strychnia seemed to aggravate the condition; bromide of potassium alone, or combined with the iodide, and blistering the back of the neck were beneficial.

The difference between such cases as the last and the others is great. In the former the dyspeptic symptoms may be insignificant, but they either exist before the nervous symptoms or are present continuously; no other adequate cause can be discovered to account for the disturbance of the health; remedies directed to correct the digestive irregularities are beneficial while other remedies fail. In those cases where the nervous system is at fault primarily, the digestive symptoms are not noticed before the nervous, and where the attacks are periodical they are not present in the intervals; other influences than imprudence in diet will cause an attack; the symptoms are more frequently nausea and vomiting, which by its severity obtrudes itself into notice; remedies directed to the nervous system give the best results. Unfortunately, overwork, anxiety, or care as predisposing causes may give rise to either purely nervous disturbance or to nervous weakness and gastric derangement, leading then to such attacks as have been described, and this renders a diagnosis difficult.

RECENT PROGRESS IN THERAPEUTICS.¹

BY ROBERT AMORY, M. D.

*Effects of Saline Cathartics, Nitro-Muriatic Acid, and Mercury upon the Bile.*² — In continuing these experiments (*vide* previous reports) Professor Rutherford has taken up the consideration of those substances which are more commonly found in natural spring waters having cathartic properties. His results may be summarized: —

¹ Concluded from page 343.

² Experiments on the Biliary Secretion of Dogs. Rutherford and Vignal. *Journal of Anatomy and Physiology*, July, 1877.

Sodium sulphate, sodium phosphate, probably by stimulating the hepatic cells, Rochelle salt (tartrate of potash and soda), have decidedly exciting influence in stimulating the flow of bile and increasing the amount of biliary matters; whilst magnesium sulphate, potassium sulphate, sodium chloride, sodium bicarbonate, potassium bicarbonate, and ammonium chloride have little if any cholagogue action; and, moreover, magnesium sulphate diminishes the flow of bile. With regard to the cathartic action these experiments show that sodium sulphate, magnesium sulphate, probably by excitation of the intestinal glands, potassium sulphate, and sodium chloride have a decided purgative effect upon dogs, and the irritant action on the intestinal mucous surface, especially in the upper half of the small bowel, is most marked after the administration of magnesium sulphate. All of the above-named saline cathartics produced more or less irritation of mucous membrane of the small intestine, and yet the amount of purgation was not always in proportion to the post-mortem vascularity of the mucous membrane, as, in the case of decided and watery purgation from sodium phosphate, the vascularity was only slightly increased above the normal appearance.

Now Carlsbad water holds in solution a large amount of sodium sulphate, which in these experiments showed the most decided cholagogue action of any of the above-named salts, and this fact is of importance to the clinician, who in practice has been led to rely upon these waters for biliary excitation. Magnesium sulphate and sodium sulphate are found in Hunyadi János bitter water in nearly equal parts, namely, about two hundred and twenty-five parts in ten thousand parts of the water. Pullna contains nearly as much sodium sulphate as the Hunyadi János, but only three quarters as much magnesium sulphate. In Seidlitz water there is five sevenths as much magnesium sulphate as the Hunyadi János, but no sodium sulphate. Friedrichschaller contains less than one quarter as much magnesium sulphate and more than one third as much sodium sulphate. From this we can deduce the following results, provided the action on man is similar to that on dogs: When catharsis without biliary excitation is indicated we may use Seidlitz water; when both are desired we may use Hunyadi János water; when only biliary excitation is required, with very slight cathartic action, we may use Carlsbad water; both Pullna and Friedrichschaller have more influence in exciting biliary secretion than simple catharsis.

Dilute Nitro-Hydrochloric Acid (Br. Ph.). — The dose of this for a man is from five to twenty drops. Dr. Scott, of Bombay, supported by Annesley, Martin, and others, claims that this substance will stimulate the liver and reduce its congestion; it was also used as a foot-bath and topically applied over the hypochondriac region. Professor Rutherford injected into the duodenum, as in his former experiments with other

medicaments, rather large doses of the dilute acid (forty minims in eight cc. of water), and, within two and a half hours after, the gradual increase of the biliary flow attained its maximum. Post-mortem examination showed a slight congestion (extending about ten inches) of the upper portion of the small intestine and some slight corrosive action in the duodenum, but no evidence of purgative action. It would have been more interesting and instructive if the experimenters had tested the cholagogue action of this acid by eliminating the irritating influences on the orifice of the gall-duct, that is, by introducing this acid, directly or indirectly, without contact with the intestinal mucous surface into the circulation of the liver.

Action of Mercury. — “In three of the four experiments mentioned” (in the first series of experiments previously reported in the JOURNAL) “calomel caused no increase of the biliary secretion. In the fourth experiment, however, a trivial increase was the result. So many observers having stated that calomel is a cholagogue in the human subject, the result of our experiments seemed to us very remarkable, inasmuch as *every other substance, save ammonium chloride, believed to be a cholagogue in man, is also a cholagogue in the dog.*” Therefore Professor Rutherford and M. Vignal subjected their previous researches to further proof. In all the former experiments the calomel was simply suspended in water and injected into the duodenum; in the present experiments the calomel was mixed with bile (which is supposed to be a solvent) and then injected into the duodenum. As before, the intestinal glands were stimulated and purgation followed; yet the amount of bile diminished rather than increased after the injection. Objection having been brought against this method of investigation from the fact that the calomel was not administered through the stomach, and that when this is done mercury combines with hydrochloric acid and chlorides, forming mercuric chloride, these observers digested during thirty-six hours three grammes of calomel in five hundred cc. of distilled water acidulated with hydrochloric acid (0.02 per cent.) at a temperature of 100° (F.). The filtered liquid gave the reaction for mercuric chloride, though the calomel had previously been found free from that salt. This salt, dissolved in water, was then injected into the duodenum (two fifths of a grain divided into six doses at one hour’s interval), and there was no increase in the amount of bile secreted, though purgation was induced. Then mercuric chloride dissolved in bile was injected, and was followed by a very decided increase in the biliary flow, accompanied with slight purgation. One twentieth of a grain of bile with one grain of calomel in 0.5 cc. of bile and two cc. of water induced the flow of bile to the amount of 0.85 cc. an hour per kilogramme of body weight. Thus these experimenters conclude that mercuric chloride is a powerful hepatic stimulant; “that calomel in doses of ten grains, five grains, or two

grains, several times repeated, when placed, *without bile*, in the duodenum of a fasting dog, produces a purgative effect, varying with the dose ; but so far from increasing the flow of bile only diminishes it ; ” “ that when calomel is *mixed with bile* and introduced into the duodenum there is no difference in the result ; ” “ that if five grains of calomel be subjected at 100° (F.) for seventeen hours to the action of dilute hydrochloric acid of the same strength as that of the human gastric juice, not more than one thirty-fifth of a grain of mercuric chloride is produced.”

Professor Rutherford quotes from the report of Hughes Bennett's committee¹ four experiments to show “ that the action of calomel when placed in the stomach of a dog was just the same as when introduced directly into the duodenum,” and observes that “ every opportunity was afforded for a transformation of the calomel into mercuric chloride,” because “ the calomel was introduced into the stomach, and the animal had its usual diet.” In regard to a reconciliation of the great question apparently between the results on man and animals he says, “ We maintain that up to this time there is really no discord between our results and those arrived at by observations on man. All our experiments concern the *secretion* and *not* the *expulsion* of bile. For the purpose of arriving at *definite* knowledge, we intentionally — in the manner described at the outset of these experiments — threw out of action the *bile-expelling* mechanism, in order that we might have to deal with the *bile-secreting* apparatus.”

The expulsion of bile “ may be occasioned (1) by stimulation of the hepatic secreting apparatus, (2) by stimulation of the muscular fibres of the gall-bladder and larger bile-ducts, to wit, the bile-expelling apparatus, (3) by removing a catarrhal or congested state of the orifice of the common bile-duct, or of the general extent of the larger bile-ducts, (4) by removing from the intestine substances which had been passing therefrom into the portal vein and depressing the action of the hepatic cells, or (5) by stimulating the intestinal glands and thereby producing severe drainage of the portal system, whereby the ‘loaded’ liver may be relieved. . . . Seeing that calomel stimulates the intestinal glands in the dog as in man ; seeing that mercury produces salivation, ulceration of gums, and other characteristic phenomena in the dog as in man, the obvious inference is that the reputed cholagogue action of calomel in the human subject is probably not owing to stimulation of the bile-secreting apparatus. And why should we, in the face of our experiments, believe the opposite until the clinical observers substitute — *for vague conjecture* — definite proof of that opposite by experimenting in a case of biliary fistula in the human subject, when it happens that no bile enters the intestine ? ”

¹ British Association Reports, 1868, page 214.

Erythroxylon Coca.¹ — Dr. McBean, premising that this drug in health prevents the feeling of fatigue and limits the secretion of urea, has used it in typhoid and typhus fevers. After its use he observed that the amount of urea was in these diseases diminished to one third or one half of that excreted before the drug was taken, and the symptoms of fatigue were very much ameliorated.

Croton-Chloral Hydrate.² — Several practitioners testify to the relief in whooping-cough from the administration of this drug in doses varying from half a grain to two grains.

Aconite, its Mode of Action. — Rosenthal³ confirms the researches of Lewin and Achscarumoff. A small quantity of aconitia is rapidly absorbed and causes paralysis of the centrifugal ends of the pneumogastric nerve; this paralysis is preceded by a momentary interval of excitement. The consequent paralysis of the phrenic nerve produces that kind of respiratory movement which is called costal. A cardiac paralysis then causes dyspnoea and convulsions. The more or less rapid paralysis of the heart (varying with the kind of animal used) will explain the different results obtained by experimenters.

The following new pharmaceutical preparations are presented as the most promising for clinical use: ⁴ —

*Granular Effervescent Salicylate of Soda and Salicylic Acid*⁵ are agreeable forms in which to prescribe these drugs.

Clin's Monobromide of Camphor in Capsules.⁶ The monobromide is quite pure, and the capsule is made of gluten, which is readily soluble in the stomach.

*Opiatine*⁷ contains only salts of morphia and codeia in unvarying amounts, the other portions of the opium having been separated. This preparation is a powerful anodyne, sedative, and soporific; the dose should be ten to thirty minims.

*Ivory Jelly*⁸ contains phosphates prepared from ivory dust. This is very delicate in flavor and well adapted for invalids.

Saturated Solution of Sulphurous Acid Gas in Alcohol contains one hundred times its volume of gas. On exposure to air the gas is evolved in large quantities.

*Chocolatine*⁹ contains but little fat and no starch, and yields a pleasant cup of chocolate.

¹ British Medical Journal, March 10, 1877.

² A. M. Roberts, Lancet, June 23d; Fidler, Id., February 24th; William Paulson, Id., February 10, 1877.

³ Sitz. der. phys. med. Soc. zu Erlangen, t. viii. p. 181.

⁴ Lancet, February 24, 1877.

⁵ Manufactured by Savory and Moore, London.

⁶ Manufactured by Roberts & Co., London.

⁷ Manufactured by Gale & Co., London.

⁸ Manufactured by Callard, London.

⁹ Manufactured by Montanban & Co., London.

Trömmer's Extract of Malt is used as a very efficient adjuvant to many of the salts of iron in solution. This extract is manufactured in Ohio.

The following preparations are made by Metcalf & Co., of Boston : —

Elixir of Viburnum Prunifolium (Black Haw). Each fluid drachm represents eight grains of the bark of viburnum prunifolium.

Elixir of Yirba Santa has eight grains of the drug in each fluid drachm.

Compound Elixir of Matico. Each fluid ounce contains sixty grains of matico, thirty grains of buchu, and thirty grains of cubebs.

Elixir of Chestnut Leaves. Each fluid drachm contains eight grains.

Elixir of Rhamnus Frangula (Buckthorn). Each fluid drachm represents eleven grains of the bark.

Elixir Coca (Erythroxyton) has four grains of the coca leaves in each fluid drachm.

Elixir of Guarana contains eleven grains of guarana in each fluid drachm.

Elixir of Wild Cherry contains eight grains of wild-cherry bark in each fluid drachm.

Compound Elixir of Cimicifuga. In each ounce are twelve grains of cimicifuga, eight grains of wild-cherry bark, two grains of ipecacuanha, six grains of licorice, and four grains of seneka. The elixir used in the above preparations is the simple elixir formula of the American Pharmaceutical Association.

Ethereal Extract of Mezereon. This is the ethereal extract of the alcoholic extract, the powdered mezereon being exhausted with alcohol, the alcohol evaporated, and the resulting alcoholic extract exhausted with ether, which is finally evaporated, leaving the ethereal extract. This is officinal in the British Pharmacopœia, being used in the preparation of *linamentum sinapis compositum* of that work.

Ferrum Oxydatum Dialysatum was introduced to the medical profession under the name of *fer bravaïs*. According to Professor Maisch¹ this is nothing more nor less than a very basic oxychloride of iron. After a review of the literature of dialyzed iron from 1858 to the present time, he concludes "that any permanent solution of so-called soluble oxide of iron must contain notable quantities of acid; and within the past year such has been proven by Hager to be the case for several European preparations sold as oxide of iron." These solutions are very convenient for combination with many of the fluid extracts or with quinine. The addition of saline solutions, or of an acid not in excess, causes a precipitate which redissolves on dilution with distilled water. The solution, as prepared by Melvin & Badger, of Boston, requires

¹ American Journal of Pharmacy, July, 1877.

three weeks for dialysis, has no acid reaction, has a specific gravity of 1015, and contains one grain of the dry colloid iron to the fluid drachm. The addition of a solution of tannin causes the precipitation of the fine tannate of iron in very small quantity. The transparency of the liquid is not disturbed by a little of the solution of nitrate of silver.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

HENRY R. STEDMAN, M. D., SECRETARY.

THE regular quarterly meeting of the society was held in Roxbury on July 10, 1877, at eleven A. M. DR. J. P. MAYNARD, president, in the chair. Present thirty-five members.

DR. EDWARD J. MEAD read a paper on Criminal Accountability of the Insane, which has been reserved for publication.

DR. C. ELLERY STEDMAN reported three cases of puerperal convulsions occurring in his practice during the last month. The first case was interesting from the fact of the convulsions coming on before, during, and after labor, the moribund condition of the patient, and her final recovery.

In the second case the convulsions began thirty-six hours after labor, and finally yielded to treatment. In the third case, only a single convulsion occurred; rapid recovery.

The treatment employed was emptying the womb,—in one case exciting labor by introducing an elastic catheter between membranes and the uterus,—venesection, cathartics, anæsthesia by ether, as well as the administration of morphine subcutaneously, one third grain at suitable intervals, etc.

In his remarks upon the cases, Dr. Stedman spoke highly of the use of the morphine injection, and suggested that a third of a grain should generally be given, and that even half a grain had often been used with success.

DR. HENRY A. MARTIN said that in his first case of puerperal convulsions, which was twenty-eight years ago, there were thirty-three convulsions. Patient was bled and croton oil and ether were administered,—opium not being given as there was some prejudice against it. This patient got well.

Eleven subsequent cases all recovered, owing to their being religiously left alone, with exception of applying cold to the head, enemata, and emptying the uterus.

Another case was in a primipara at the sixth month of pregnancy. She was much troubled with headache, but got up and walked two miles, when she fell down in a convulsion. After a second convulsion Dr. Martin attempted to induce labor; os very rigid and undilatable. He finally managed to get down a foot, but the os remained rigid in spite of a full dose of belladonna. He then nicked the os and the child was delivered. The convulsions, however, continued in spite of the chloroform; deep coma set in. Anxious to change the condition of the patient's brain he gave a grain of morphine, which he followed soon after with one fourth grain more. In two hours the narcosis became profound, after which the patient recovered.

He thought that morphine should *not* be given in these cases before the uterus is emptied.

DR. STEPHEN C. MARTIN read the following case of Compound Separation of the Lower Epiphysis of the Tibia, with Fracture of the Fibula. He remarked that, in a discussion which took place in the Société de Chirurgie of Paris on the subject of the Separation of the Epiphyses, reported in the Biennial Retrospect of the New Sydenham Society for 1865-1866, the opinion was very generally expressed that such a thing did not occur; but that in every instance a portion of the shaft was attached to the epiphysis, so that the case was really a fracture. M. Broca, however, reminded the society that the injury could easily be produced in the dead subject, and therefore was very probably more frequent in the living than was supposed. Separation of the lower epiphysis of the tibia is certainly a very rare accident. Prof. R. W. Smith, of Dublin in his address on Surgery, printed in the *British Medical Journal*, August 17, 1867, says that, so far as he knows, there is no published authentic example of it except one which he put on record in 1860. This was a case which was not seen by him until six months after the accident. Professor Smith had, however, overlooked a description by Holmes of a specimen in St. George's Hospital Museum. This was the case of a young man of eighteen, whose leg was caught in a rope on board ship, and had to be amputated for rupture of the popliteal artery. The specimen presents separation of the lower epiphyses of both the femur and tibia, a small portion of shaft being attached in both instances; also separation of both epiphyses of the fibula. This last is somewhat doubtful from the fact that the bones had been macerated. The specimen is figured in Holmes's work on Surgical Treatment of Children's Diseases. This extreme rarity of the lesion induced him (Dr. Martin) to present the following case:—

The patient, a healthy German lad, aged eleven, in sliding down from the top of a telegraph pole, on the afternoon of November 19, 1876, lost his hold when about half-way down, and fell violently to the ground. He was taken up by some passers-by and conveyed home in a carriage. On my visiting him an hour after the accident, I found that the distal end of the shaft of the tibia had been separated from the epiphysis and was protruding through the integument. It had been thrust into the hard, frozen earth, friction with which had stripped the periosteal covering of the bone from its entire external surface for the space of at least one and three fourths inches. The peculiar stellate radiations of the extremity of the shaft, where it joins the epiphysis, were found to be perfect, when the dirt which had been packed into them had been removed. The entire surface of the end of the shaft was plainly in sight, so that a most thorough examination could be made. It was found that no portion whatever of the shaft was broken off, but that the case was one of separation of the epiphysis purely.

There was also a fracture of the fibula about four inches from its lower extremity.

It was found necessary to enlarge the wound considerably, and afterwards to use a good deal of force to accomplish reduction. To the outside of the leg a piece of prepared felt, softened in hot water, and of sufficient length to ex-

tend from the knee to the sole of the foot, was applied. This almost immediately formed a firm and perfectly adapted case for that side of the limb, and was merely tied on by three or four strips of bandage. The leg was laid, in Pott's manner, on its outside upon a pillow, the knee being bent at a proper angle. There was no hæmorrhage beyond a very slight oozing from the bone, which was at once controlled by placing the foot in a slightly elevated position. The wound was closed with a compress of wet lint and a few turns of bandage.

The next morning, on visiting the patient, I found that there had been much hæmorrhage. On removing the dressings the wound was found to be distended with soft coagula. When these were cleared away it was seen that from the entire denuded surface of bone venous blood was oozing very freely. The foot was elevated, ice and afterwards a graduated compress applied, but with little or no effect. The bleeding was so profuse and had been so great that its much longer continuance threatened even the life of the patient. Under these circumstances I was advised by my father, Dr. H. A. Martin, to dust the surface of the bone with powdered subsulphate of iron and to fill the wound with lint, outside of which a compress soaked in cold water was applied. On visiting him that evening I found that there had been hardly any bleeding since these measures had been taken. The next morning the lint was removed and the wound washed out. The wound looked well, and a crust formed by the union of the subsulphate of iron and blood covered and protected the bone. There had been delirium during the night, which lasted some little time longer, about twenty-four hours in all, and disappeared upon action of the bowels. For the next three days a little salicylic acid was sprinkled upon the wound at each dressing. From the end of that time (November 25th) to December 2d, a bag of dry earth, with a dressing of salicylic acid, was laid upon the wound, a fresh one being prepared at each visit. After that an ointment containing carbolic acid and simple cerate was used till the wound was healed. Up to November 26th the uncovered surface of the bone looked perfectly dead, and I supposed would eventually entirely exfoliate, but at that date it began to assume a rosy hue, which gradually deepened until December 9th, when granulations were thrown out by the bone over its entire surface. On the 8th of December the splint was removed, and thereafter the leg was simply laid upon a pillow, with tarred oakum underneath it to catch the discharge, and the wound dressed with the carbolic-acid ointment and oakum. From that time the wound quickly filled up with granulations and cicatrized. Three very small pieces of bone worked up through the granulations to the surface. In two months from the time of the injury the boy was about as usual.

DR. HENRY A. MARTIN said that he wished to add a few words to the narrative of the very rare case just read, in regard to the use of powdered subsulphate of iron as a hæmostatic applied to denuded bone. As he had reason to know that such use of this salt is disapproved by very eminent Boston authority, even in hæmorrhage from wounds which do not involve the bones, and, where bleeding is from denuded bone, is by the same authority considered extremely improper and unsafe, he wished to take the entire responsibility of having advised its use in this instance. In this case he would very gladly have

avoided the use of any hæmostatic drug, but the hæmorrhage was so profuse and so entirely beyond control by other means that he had no choice. If, however, he had any faith in the doctrine of danger from its use he should not have advised the subsulphate. The notion on which the unfavorable opinion of the subsulphate of iron is founded seems to be that it is a caustic, destructive of living tissues, and particularly of bone. He had never seen anything in its quite frequent use which would lead him to agree in this opinion. On the contrary, it had seemed to him eminently conservative of wounded tissues, and it is so because, combining with blood and dead tissue, it forms a peculiarly firm adherent crust or scab, under which nature's processes of repair go on most perfectly. He had never observed anything like injury to living tissue from the action of the subsulphate, but, on the other hand, the most decisive evidence that no such injury ever occurs.

It would not be easy to find a case better calculated to make manifest the injurious effects alluded to than that which you have just heard narrated, — a large surface of bone entirely bare of periosteum, and a separation of the epiphysis into which the dissolved salt could easily find entrance. There certainly was no injury to the bone from a very free application of this supposed destructive agent, for on the seventh day, from being white as ivory and apparently dead, it became of a rosy pink, and was very soon covered with a full coat of healthy florid granulations. Instead of a large exfoliation of bone, which might have been looked for, all that appeared were two or three insignificant little particles. One would almost think that a directly favorable effect on the vitality of the bone had followed the application. There certainly was no injurious effect whatever. It may be said that the boy escaped, not on account of the treatment, but in spite of it. Such is a common style of criticism, but it will not answer here. If the action of the subsulphate of iron upon denuded bone is destructive it is as a chemical agent, and if in one case then in all. He did not believe it to be bad practice to apply the subsulphate of iron to wounds, venous bleeding from which cannot be arrested by simpler means, even if such wounds expose whole or fractured bone; for pure subsulphate of iron is not, in any way, a caustic destructive of living tissue, but an admirable antiseptic hæmostatic, preventing, as such, an entire loss of vitality in wounded and bruised tissues by their being entirely drained of the blood on which their nourishment depends, and also by its formation by union with blood, etc., of a firm and peculiarly antiseptic covering, under which injured tissue regains its full vitality, and lost tissue is repaired.

DR. ARNOLD said that he never knew the perchloride to be destructive to tissue; he often used it internally in preference to the chloride. But in many surgical cases it is inefficient; when the hæmorrhage is from a small vessel it is very efficacious, as a clot formed and the extremity of the vessel contracted around it, while in large vessels the bleeding is apt to occur around the clot.

DR. MARTIN replied that it was *not* proper with large vessels, but that oozing from a large surface often resisted any means but this, as in secondary hæmorrhage after amputation or that from the lining membrane of the rectum. After operations on the rectum he was in the habit of rolling up the subsulphate

with lint and lard, thus making a plug, to which a string was fastened, which, when removed the next day, showed no indication of the occurrence of bleeding. This he had observed in nearly two hundred cases.

DR. ARNOLD spoke of the advantage of the use of the perchloride of iron in doses of from four to six drops, and the better results following its use than from the use of the tincture of the chloride of iron.

DR. AMORY asked if any one present had any cases of malignant pustule, as he had one in his practice. He gave a short account of the case, and will report it in full at the next meeting of the society.

After voting that there should be a special meeting of the society held next October, the meeting adjourned.

CHEMIA COARTATA.¹

THIS little work of one hundred and eleven pages treats in a tabular form of all of the elements and their principal compounds. A few pages are devoted to short but accurate definitions of all of the terms used in chemistry. The new nomenclature alone is used.

The tables are so arranged that they give the name and symbol or formula of the substance, its synonyms, history, source, the chemical reactions which take place during its preparation, its properties, and its principal tests. These points are all given in the very briefest manner without any explanation or detailed description, the tests most frequently being represented simply by an equation showing the reaction which takes place on performing the test. The book is, therefore, of no value to the beginner, who is not already familiar with the principles of chemistry and with chemical manipulation, but it is chiefly valuable as a handy book of reference for a few points which may have escaped from the memory, in connection with the more common chemical substances, and, as the author states in his preface, for "students intending to present themselves for examination" in general chemistry. W.

ADVICE TO STUDENTS.

WITH the present week the summer vacation passes away and the season of study begins at most of our medical schools. Many, indeed, are forced by the exigences of their situation to swerve from the general plan and hold their sessions at such a period of the year as will enable them most easily to obtain instructors of note. Such vagaries are, however, fortunately not numerous, and only possible under the system which gives the equivalent of a year's work in a few months. We think it would be far more for the advantage of the student if humbler teachers were selected and more attention paid to the improvement of methods of teaching. Except under the new system, habits of careful

¹ *Chemia Coartata, or the Key to Modern Chemistry.* By A. H. KOLLMYER, A. M., M. D., Professor of Materia Medica and Therapeutics at the University of Bishop's College; Professor of Materia Medica and Pharmacy at the Montreal College of Pharmacy; and late Professor of Chemistry, etc. Philadelphia: Lindsay and Blakiston.

study are rarely inculcated, a fault which all who compare their own education with that of a recent graduate of one of our more progressive schools sorely regret. There is a kind of information which can be acquired nowhere but in the laboratory, recitation-room, or dissecting-room, and in the early part of student life, which forms the basis of a modern, medical education, and which places those who have submitted to its drudgery in advance of students who frequent some celebrated clinic or follow in the footsteps of a popular teacher. We should earnestly advise beginners to inquire not where the great men and hospitals are to be found, but where that preparatory drill is to be obtained which fits a man to study and observe for himself. This can never be acquired later in one's career. We should also advise a student to adhere as closely as circumstances would permit to one school throughout his course. The fashion of rushing from one school to another to skim the cream from each curriculum leaves vast chasms unfilled by work, which if not as showy is essential to completeness. Having systematically gone through a prescribed course of study, the student may with advantage employ a fourth year in the more pleasing task of suiting his fancy among the clinics of some of our great centres of education. Of these we have at least one whose clinical advantages rank favorably with those enjoyed by the schools of Paris or Germany. Indeed, with our modern facilities for teaching, a foreign tour, however agreeable to the student, has not the excuse of necessity which it had only a few years ago, and we hope our young men will appreciate this fact and be content to avail themselves fully of the opportunities afforded them at home, rather than to substitute for them the prestige of a tour through European hospitals. It might be objected that such a plan as we have thus briefly sketched involves greater expense than most of our students are able to incur, to which we would reply that he who undertakes so responsible a calling should be provided with the means to secure a thorough education, or seek one more adapted to his situation in life.

MEDICAL NOTES.

— An interesting incident in the proceedings of the recent annual meeting of the British Medical Association was the presentation of medals to several medical men for their heroism and perseverance in assisting in the rescue of miners in the colliery accident at Pont-y-pridd, where four men and a boy were imprisoned without light or food from April 11 to 21, 1877. In the presentation address it was stated that the physicians were "for days and days in the mine waiting for the expected release of the men, and when the happy release was made they were unremitting in their attention to the poor men;" also that "the moral influence of the presence of the medical men, who cheered and encouraged the miners to persevere in their attempt at rescue, had a very material bearing upon their success. When the imprisoned men could be communicated with the first thing they asked was, 'Are the doctors there?'" and the two young [medical] men, Messrs. Dukes and David, were the first who after a communication had been effected crept through the narrow channel at the peril of their lives. The doctors when in the pit were in the same peril

from coal-damp and a flood of water as the working miners, and they had not the stimulus of bodily work to take off their minds from the depressing influence of surrounding circumstances." The gold medal of the association was awarded to Henry N. Davies, surgeon to the colliery, upon whom devolved the chief responsibility, care, and anxiety during the entombment and after the rescue of the victims. He spent whole days and nights in the pit. The silver medal was awarded to two young assistants, and the bronze medals to several others who rendered essential service.

— The new Hôtel Dieu is reported to have cost forty millions of francs. It contains only four hundred beds. The hospital was formally opened on August 11th by Marshal MacMahon. Accompanied by the medical staff and others, the marshal visited the various wards of the hospital, and to several of the patients offered words of comfort and encouragement. In the medical wards of Dr. Gueneau de Mussy, says the correspondent of *The British Medical Journal*, the marshal reminded the doctor that many years ago he was treated by him for intermittent fever, which obstinately clung to him, but which he was anxious to get rid of, as he was about to be married. Other physicians were consulted, but with no better success than that which attended Gueneau de Mussy. All the doctors advised rest, which MacMahon was going to follow, when he received an invitation to join a hunting party, which, notwithstanding the paroxysm of fever under which he was laboring, he accepted; and, in the run after a deer, his horse threw him into a ditch filled with water which was as cold as ice, and the next day he was cured, never having had a return of the fever since. One would imagine that this little incident alone was sufficient to render the marshal somewhat skeptical as to the utility of medicine; he nevertheless, in recognition of the services then rendered him by Dr. Gueneau de Mussy, has promoted the eminent physician to the dignity of officer of the Legion of Honor.

— A remarkable case of repeated rupture of the uterus in successive labors is reported in the *Chicago Medical Journal and Examiner* for August, 1877, by Dr. Rose, of West Winfield, N. Y. The patient, an Irish woman, aged thirty-two, the mother of two children, was taken with labor pains in June, 1869. Rupture of the uterus occurred five hours after labor began, and the child escaped into the abdominal cavity, from which it was delivered by turning. A similar accident happened to the same patient in April, 1872, May, 1874, and February, 1876. The last time Dr. Rose delivered a living child, and the patient suffered no more than is usual after an ordinary delivery.

— *The Lancet* for September 1, 1877, gives an account of the researches of M. Catillon regarding the physiological action of glycerine. It was found that given in moderate doses it acted as a laxative, diminished the elimination of urea, and improved the appetite. The maximum quantity of glycerine required to exert its beneficial action is from one half ounce to one ounce daily, this quantity producing the full laxative action and diminishing the elimination of urea, while improving the appetite and promoting nutrition. The experiments do not appear to lend much support to the use of glycerine in diabetes, but they indicate certain properties which may be of use in the relief of some symptoms of that disease.

— We see in a recent exchange that Proska succeeded in quickly replacing two strangulated herniæ by injecting several litres of water into the rectum by means of a syringe. In the first case all the other means of reduction had failed.

— J. Schreiber in the *Deutsches Archiv für klinische Medicin*, xix. page 616, recommends the following methods of proving the position of the stomach. A sound which is armed at its lower end with a small india-rubber balloon is introduced into the stomach. If the balloon is now filled with air through the mouth-piece of the sound distinct contractions of the stomach occur.

— E. Krull used the following treatment with success in eleven cases of icterus catarrhalis, some of which had been treated for a long time with the ordinary means without a good result. The rectum was injected once a day with water at a temperature first of 59° F., later increasing to 72.5° F., by means of a syringe. From one to two litres of water were used according to the sensations of the patient. In no case were more than seven such injections needed. Senator has also confirmed the method of treatment.

— We have received the Proceedings of numerous state medical societies. Many of our Eastern state societies have already attained quite a venerable age. That in New Jersey held its one hundred and eleventh annual meeting. This is the oldest in the United States. The Proceedings are made up largely from reports from the various districts. Connecticut held its eighty-sixth annual meeting in May, and Maryland its seventy-ninth. The Proceedings of the former present a number of original papers with illustrations and a series of district reports. In the latter we find that the annual oration was delivered by Dr. Weir Mitchell. This society receives reports on progress in the various departments of medicine. Missouri held her eleventh annual meeting. We find in this report papers on the Subcutaneous Division of the Femur, with a case, Surgical Dealings with the Sphincter Muscles, Cancer of the Larynx, etc. The Transactions of the Kentucky Medical Society, embracing so active an element in professional circles, are always of interest, and appear in an elegantly bound volume. We find an interesting paper on the Pathology and Treatment of Sprains, by Dr. Richard O. Cowling; also a Report on Dermatology, by Dr. L. P. Yandell, Jr.; Cholelithiasis, by Dr. John A. Oeterson; and an address by the president, Dr. Gaines.

— Dr. Wiley, of Philadelphia, writes to us a strong recommendation of the extract of malt and the glycerite of kephaline, in the treatment of tuberculous disease. He finds that either of these in combination with cod-liver oil are more readily tolerated than the oil alone, and more efficacious in combating the disease. He has used with satisfactory results the following combination: Cod-liver oil, four ounces; extract of malt (Lœflund's), eight ounces; glycerite of kephaline, two ounces; the dose of the mixture being a tablespoonful.

— We have received from Henry Thayer & Co., a neat volume containing a descriptive catalogue of the fluid and solid extracts, also pills, resinoids, and alkaloids, prepared by the firm. The matter is arranged in a simple manner, contains much useful information, and would be a convenient work of reference to the physician as well as to the apothecary.

MASSACHUSETTS GENERAL HOSPITAL.

SURGICAL CASES OF DR. WARREN.

[REPORTED BY O. T. HOWE AND H. L. MORSE.]

Injury to Hand from Explosion; Lister Dressing. — S. M., twenty years of age, entered the hospital July 4th, two hours after receiving an injury to the left hand from the bursting of an overloaded gun.

After a slight examination it was decided to use Lister's dressing as offering the best chance for saving the hand.

The patient was etherized, and a more careful examination made under the spray of a five-per-cent. solution of carbolic acid. There was found to be a lacerated wound of the palm of the hand, almost all the integument being destroyed from just above the wrist to within half an inch of the heads of the metacarpal bones. The superficial muscles and tendons were destroyed. The thumb was torn from all its attachments on the palmar surface of the hand, and the joint laid completely open. There was also a compound fracture of the metacarpal bone of the little finger.

The wound extended round upon the back of the hand, being there about an inch wide, and leaving the integument covering the middle and ring fingers untouched.

The wrist-joint was not opened.

The wound was cleaned of foreign bodies as far as possible, there being a large amount of powder in it, all bleeding points were ligatured with carbolized catgut, and the edges of the cut approximated as far as possible with carbolized gut sutures. Twice during the first twenty-four hours the discharge from the wound soaked through the bandages, and the dressing was renewed under the spray.

For the next six weeks fresh dressings were applied as often as the discharge appeared on the outside of the bandages, always under the spray, and great care being taken to carbolize the wound thoroughly. At no time after the operation was there any swelling or tenderness about the wrist or arm. The wound granulated well, and cicatrization proceeded rapidly.

The patient's temperature rose on the evening of the 5th of July as high as 103° F., but steadily fell during the next ten days until it reached 100° F., and rose above that point twice only during the rest of the patient's sickness. After the wound in the palm of the hand had almost healed, there was some burrowing of pus in the fore and middle fingers and near the base of the thumb, which was relieved by incisions. The Lister dressing was removed on September 2d, the wounds having nearly healed. At the time of leaving the hospital the patient had already regained some use of the thumb.

Chondro-Sarcoma of the Ulna; Amputation; Lister Dressing. — Patrick McD., aged eighteen, a weaver by trade, entered the hospital August 1st. Eight months before entrance he noticed a swelling on his left arm; this slowly increased in size until shortly before he entered the hospital, when it began to enlarge much more rapidly. He had little or no pain in the arm until a short time before he came to the hospital, but for the last few weeks he has had

sharp shooting pains in the arm. He knows of no cause, such as an injury or blow, for the swelling; there is no swelling of other bones. At the time of entrance the swelling extended from wrist to elbow; the arm is twice as large as the right; the tumor is very hard and seems to be immediately under the skin. There is no increase of pain on pressure, and no one spot seems particularly painful.

Ether being given, the arm was amputated just above the elbow by the circular flap (the operation being performed strictly according to Lister's method). Esmarch's bandage was used, and the amputation was performed without loss of blood, but on removing the tourniquet there was a capillary oozing difficult to control. While coming out of the ether patient tore off the dressing, which was immediately reapplied under spray. During the evening of the same day, the discharge from the wound having soaked through, it was again taken off under spray and the arm dressed with salicylic cotton. Patient had little pain and slept well. Arm was dressed again on August 6th; there was very little discharge; no bagging of pus. A short drainage tube was removed. The arm was dressed again on August 10th, 12th, and 14th. On the 14th all the stitches had come away, and there was a slight gaping of the wound near centre, and a small quantity of pus was squeezed from within the flaps; the salicylic cotton dressing was replaced by a regular Lister dressing. Dressed again on the 18th. On the 22d allowed to get up. Dressed again on the 24th. Wound healed through nearly its whole extent. Dressed again September 1st, when wound was found to be entirely healed. Simple bandage applied.

A microscopic examination of the tumor showed it to be a chondro-sarcoma. The growth involved the entire ulna, the extremities only of which were recognizable. There was little or no traumatic fever, the thermometer rising but on one occasion to 101° F. The whole amount of pus secreted did not exceed a tablespoonful. There was considerable serous exudation during the first few days, necessitating a frequent renewal of the dressing, which, owing to its complicated character, entailed a far greater amount of attention from the attendants than is required by the ordinary method of treatment. This was also a difficulty met with in the previous case.

Cancer of Tongue; Excision. — Robert R., groom, fifty-three years of age, entered the hospital August 14th. Four months ago patient noticed a small sore, like a canker, on the left side of tongue, which slowly increased in size until two months before entrance; since then it has grown rapidly and caused him pain. At time of entrance he had a sore, with raised and thickened edges, extending from the canine teeth on the left side along the inner surface of the jaw to the angle, and involving the whole of the left side of the tongue from its tip to its root. A swelling of the size of a pigeon's egg could be felt just below the angle of the jaw from the outside. There was a foul smell, and the patient insisted upon an operation.

August 17th. Operation performed under ether by Dr. Warren. The trachea was first opened between the thyroid and cricoid cartilages, and the tracheotomy tube inserted. A ligature was passed through the tongue to hold it to one side, and the pharynx was plugged with sponges. An incision was then made in the median line of the lower lip and continued from the point

of the chin along the lower edge of the jaw beyond the angle. The vessels were ligatured, and the cheek dissected up and drawn upward toward the eye and held there. The lower jaw was then divided at the symphysis and again just above the angle. This portion was removed, exposing the diseased tissue, which was dissected out with knife and scissors, cutting first from below and then from behind forward. Two glands which seemed to be diseased were also dissected out. A large artery near the seat of the lingual was cut and tied during the operation. The hemorrhage from the smaller vessels was controlled partly by ligatures and partly by perchloride of iron. The cheek was returned to its normal position and the wound closed with sutures. The string which was passed through the tongue was attached to the ear. The tracheotomy tube was left in the trachea. Patient slept five hours during the night, enemata of brandy and beef juice being administered every three hours. No food could be taken by the mouth, as the tongue was so much swollen that it filled the whole mouth.

August 18th and 19th. Patient took milk and beef tea by the mouth. He had a good deal of trouble with his breathing, the tube becoming filled up very frequently with muco-purulent discharge.

August 20th and 21st. Patient had severe attack of bronchitis, very abundant expectoration, becoming more and more purulent in character. Vomited almost all food taken by the mouth, and was fed by means of enemata.

August 22d. Tracheotomy tube removed, but this gave little or no relief. The expectoration became very offensive and profuse. His strength gradually failed, and he died on the morning of August 23d.

The external wound did well throughout his whole sickness, and healed by first intention. At the autopsy, performed fourteen hours after death, the trachea was found filled with greenish purulent discharge, very offensive. Gangrene of base of left lung, involving a portion about the size of a base ball; bronchitis throughout the whole of both lungs. Heart, stomach, intestines, and liver normal. No cancerous disease found internally. The wound of the tongue had nearly healed.

OBITUARY NOTICE OF DR. A. B. CROSBY.

MESSRS. EDITORS, — Prof. Alpheus Benning Crosby was born at Gilmanston, N. H., February 22, 1832. He came to reside at Hanover, N. H., in 1838, when his father, Dr. Dixie Crosby, came to that place to assume the professorship of surgery in the medical department of Dartmouth College. He graduated in the academical department of that college in 1853, and received its degree of M. D. in 1856, from which time till 1861 he remained at Hanover in professional practice.

At the commencement of the war of the rebellion he was appointed surgeon of the first regiment of New Hampshire volunteers, and the same year was made a brigade surgeon and medical director on the staff of Gen. C. P. Stone. He subsequently held the same relations to Gen. John Sedgwick, Gen. Silas Casey, and Gen. John Peck.

In 1862 he was appointed associate professor of surgery, and in 1871 he

became professor in full of that department in Dartmouth College, as successor to his father. This office he held up to the time of his death. Between 1865 and 1871 he had also been appointed professor of surgery in the medical department of the University of Vermont, in the University of Michigan, and in the Long Island Hospital College. He was elected professor of anatomy in the Bellevue Hospital Medical College in 1872, and surgeon to that hospital in 1876, both of which offices he held at the time of his decease.

In all these positions and in the practice of his profession, his success was preëminent, and his reputation as a teacher and surgeon was unsurpassed by that of any practitioner of his age in this country. Though founded on a profound knowledge of all the subjects he professed to teach, and a thorough experience and conscientious performance of duty in his profession, his success was also essentially enhanced by his fine personal appearance, his kind and genial spirit and affable manners, and his high sense of honor, which made friends of all who knew him.

But this sketch must be restricted especially to an account of Dr. Crosby's last illness and death.

He had come to Hanover from New York, where he had lived for the last five years, to perform his professional duties during the present course of the medical college, which commenced on the 1st of August. On the 3d he made the following statement to the writer:—

For several weeks before he had observed that he had risen in the morning not so fully refreshed by his sleep as usual, which he naturally ascribed to a winter and spring of incessant extra mental labor. He had also had a sense of "renal weariness." But only four days previously he had experienced great exhaustion after a fatiguing professional trip and loss of sleep, and then first had his attention directed to a copious diuresis. The latter persisting, he had on the day before caused an analysis to be made by two of his advanced pupils, who found the urine to have a specific gravity of 1030, and to contain not less than seven per cent. of sugar. He had also for two days past had a defect of vision, sometimes not distinctly seeing, and sometimes seeing double, the features of those in the farther and higher parts of the lecture-room, while he clearly saw those on his own level at any distance. His tongue was covered by a creamy coat, and thirst was constant. His pulse was but slightly accelerated, and the temperature was 99°, it having fallen from 101°, as found two days before. He had already adopted treatment appropriate to his condition.

He fully appreciated the gravity of his malady, and freely expressed his preparation for the probably not very distant result. I, however, suggested that, since the starting-point of the glycosuria was almost certainly the overaction of the brain to which he had so long subjected himself, complete cerebral rest for several months might remove the present symptoms, and he at once decided to refuse all practice and merely to give a daily lecture through the term, and then to go abroad for an indefinite period.

He called on me again on the 6th, when all his symptoms were somewhat improved, but he had decided after his lecture on that day to give up his course entirely for the present. On the evening of the 8th I was requested to see him at his house. I found he had kept his bed all that day, but there was no

apparent dryness of the surface nor elevation of temperature; the tongue looked better and the thirst was diminished. His vision had very much improved within the past two days, and the diuresis had somewhat lessened. He was bright, cheerful, and even jocose as usual. But his face was slightly flushed, though not at all hot to the touch, and he was rather somnolent; but his sleep was so quiet and apparently so restful that I advised that it should not be unnecessarily disturbed. He passed a comfortable night till four A. M., when stertorous respiration commenced. I was sent for at nine A. M., and found him comatose. He died at a few minutes past one that afternoon (August 9, 1877).

The post-mortem examination, at which I was present, was very carefully made by Prof. C. P. Frost, on the afternoon of August 11th, fifty hours after death. The rigor mortis, which had occurred a few minutes after death, had disappeared. Only the brain, liver, and kidneys were examined.

The brain weighed fifty ounces avoirdupois. The anfractuosities were very deep, and the gray matter presented more than the average thickness. The entire organ was decidedly anæmic. Great care was taken to detect any organic change, but no softening was found, except to a very slight extent in the left hippocampus major. But there was decided scleroma of the whole substance of the pons and medulla oblongata, and consequently of the walls of the fourth ventricle. There was also a body as large as a common pin's head — apparently an embolus of long standing — at the point of division of the basilar artery into the posterior portions of the circle of Willis, which must have presented some obstruction to the cerebral circulation. No microscopic examination was made of any portion of the brain.

The kidneys presented evidences of extreme lesion, one of them being so pulpy as to be ruptured in its removal. The other kidney and a portion of the liver were sent to Dr. R. H. Fitz, of Boston, for microscopic examination.

Dr. Fitz found that the cells of the liver were "rather more granular than in a fresh, healthy specimen, — the granules largely disappearing on the addition of acetic acid. The kidney was extensively diseased, scarcely a normal tubule being present. This was suggested by the flabby, soft nature of the organ and by the opacity of the surface of a fresh section, particularly in the region of the convoluted tubes. With the microscope an excessive fatty and granular degeneration of the tubular epithelium, parenchymatous nephritis, was evident, and the Malpighian bodies were indistinct in their outline, and likewise exceedingly granular. On section through the bases of the pyramids I found numbers of hyaline casts."

I may here remark that Dr. Crosby's pulse was normally slow (but 60), and not strong, and that he had been aware of the anæmic condition of the brain for the last two years. He stated to me several months since that he never felt so able to make his highest intellectual efforts as when in a paroxysm of fever, and his heart, thus excited, delivered a greater amount of blood to his brain. He sometimes, when over-exhausted, resorted to a two-grain dose of sulphate of quinine to produce a similar effect upon the cerebral circulation.

I think the preceding facts afford an explanation of a death to most so unexpected and mysterious. The brain had been overtaken, for the last ten years especially, and had been but irregularly repaired by a sufficient amount of sleep. Dr. Crosby was an early riser, but was not early in bed;

and of course he lost sleep in his professional night-work. But it was doubtless his extra professional labor which turned the scale against him, especially his courses of popular lectures and his speeches on public and private occasions. An anæmic brain thus constantly forced and imperfectly repaired must ere long suffer some modification of nutrition. This did not declare itself till ten days before death by the glycosuria and the usual accompanying diuresis. The syrup — for it is essentially such — which deluged the kidneys, being a powerful irritant, excited a rapid inflammation of those organs, a consequent sudden arrest of secretion of the peculiar normal elements of the urine, and sudden death from uræmia. Similar irritant effects of the saccharine solution are produced externally in cases of vulvar pruritus attending diabetes in the female. The urethra had in the present case become highly irritated on the 6th of August, and I expected that signs of renal congestion or inflammation would promptly ensue. The diplopia and other defects of vision I should attribute to cerebral exhaustion and a loss of perfect accommodation rather than to uræmia.

Such a sudden termination of so brilliant a professional career is of pregnant interest to the younger members of the profession. As one who has now attained to his ninth septennium, though for many years beset by all the dangers which have conspired to end this valuable life, — and who has meantime lost three younger friends and professional brothers between the ages of forty-one and forty-five from over-work and insufficient sleep, — I trust I may be pardoned for reproducing here for the consideration of my younger readers the substance of a conversation I had with Dr. Crosby on his becoming a resident of New York: —

“ You have come to reside in this metropolis at a dangerous time of life, and it is peculiarly so to one of your mental characteristics. The age of forty is a critical period in any hard-working and conscientious physician’s life. Such a man has probably already secured a certain foundation for success, and a patronage which will support himself and family. But he does not yet feel assured of this, and still labors as unintermittingly as for the previous ten years to certify his success. But God has given sufficient vital force to last a man of average strength, if he taxes it continually in the practice of our profession, only till he is about forty years of age, or more accurately, to the sixth septennium, or forty-two years. Hence very few such men can go beyond this date without breaking down, and perhaps not to recover. Some are overtaken at an earlier age than forty, and some may go on to forty-four or forty-five, but the general proposition is as has been stated. Thus many of the most promising men in our profession die between the ages of forty and forty-five. With the cases of Conant and Brown, of this city, you were acquainted. The only sure means of escape are timely rest — and it should be periodical and complete — and sufficient sleep. You are now about forty, and have not systematically commenced with either. But this danger is evidently augmented if at this time of life a change of location is made, since the needed respite will certainly not be secured, but anxiety, and labor also, will be increased in securing success in a new position:

“ But there is still another element which will tell still more against you. I allude to your social tendencies, your facility as a speaker, and the fact that

you are therefore a favorite on convivial occasions. I have no apprehension that the allurements of city life, fatal to so many, will overcome a man who very seldom and always lightly drinks wine and never uses tobacco; but you will often be solicited to make after-dinner and public speeches and to give popular lectures, and to such calls you will be very likely to respond, at the expense of much extra mental labor and the risk of breaking down."

He replied that he considered me the proper person to caution him on these points, since I had myself gone over that ground, though I seemed to have got over all right, and he had no idea of being more foolish or careless in these respects than I had been.

"But you only know in a general way what I have done; you do not know, and I shall therefore tell you, how I have, as I believe, avoided the consequences which I fear for you. I found early in my career that I had not the strength to attain to my own ideas of professional acquirements and standing, and also to engage habitually in extra-professional labor and excitement; that I must entirely forego convivial and to some extent even social pleasures, or forfeit to a corresponding extent what I held to be the true aims and duty of a medical man. I have therefore never, like you, acquired the reputation of being a good fellow, and have usually escaped the solicitations from that direction which you will constantly have to meet. I also, many years ago, learned that the man who energetically uses his brain for sixteen hours daily needs eight hours to repair it thoroughly, which means that he needs eight hours of normal sleep. But as this cannot be secured by a physician in practice, I have adopted the best substitute I could command, and habitually take a nap of ten or fifteen minutes immediately before dinner whenever this is possible. This habit I have considered my main safeguard against exhaustion and illness for the last twenty-five years. I have also been absent from the city on a vacation at least one month in a year. Yet with these precautions, even, I felt assured that I had made two very narrow escapes, when forty-three to forty-four years of age, and again at fifty-eight."

He promised seriously to consider the points I had suggested. But he consented to assume one extra task after another, still sleeping too little and resting not at all. He had, however, decided to give no more popular lectures after completing his course last winter at the Cooper Institute, but to limit himself thereafter to professional work. But that decision was made too late.

He leaves a wife and three children. His mother still resides at Hanover, and his only brother, Dr. A. H. Crosby, at Concord, N. H.

The loss of such a man from our ranks is felt not only by the institutions with which he was connected and the communities in which he practiced, but also by the profession at large. I think he was personally acquainted with more individual members of the profession than any other physician of his age in this country, and I never heard him speak of a single one with any unkind feeling. Neither malevolence nor jealousy had any place in his mental organization. Ever and only pleasant will be his memory to all alike who knew him, for

'None knew him but to love him,
Nor named him but to praise.'

E. R. PEASLEE.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 15, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	493	23.79	27.46
Philadelphia	850,856	274	16.74	22.88
Brooklyn	527,830	213	20.98	24.31
Chicago	420,000	169	20.92	20.41
Boston	363,940	182	26.00	23.39
Providence	103,000	40	20.19	18.34
Worcester	52,977	21	20.61	22.00
Lowell	53,678	22	21.31	22.21
Cambridge	51,572	32	32.26	20.54
Fall River	50,372	25	25.81	22.04
Lawrence	37,626	18	24.88	23.32
Lynn	34,524	11	16.57	21.37
Springfield	32,976	8	12.61	19.69
Salem	26,739	12	23.34	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a regular meeting of the society, to be held on Monday evening, October 1st, at eight o'clock, at its rooms, 36 Temple Place, Dr. Lincoln will read a paper upon Injury inflicted by Electrical Treatment.

A REGULAR meeting of the Suffolk District Medical Society will be held at 36 Temple Place, on Saturday, September 29th, at seven and a half o'clock. The following papers will be read: Dr. C. E. Wing. Some Hints regarding Uterine Supporters. Dr. D. Hunt. The Development of the Middle Ear. Supper at nine o'clock.

THE eighth annual session of the Medical Society of Virginia will be held in Library Hall, corner of Bollingbrook and Sycamore streets, in the city of Petersburg, Va., at seven and a half P. M., Tuesday, October 23, 1877. The public generally are invited to attend the session of this Tuesday evening. During the morning session of the second day, the address of the president, Dr. James L. Cabell, of the University of Virginia, will be delivered. During the second and subsequent days the following committees are expected to report: —

On Advances in Anatomy and Physiology. Honorary Fellow, Dr. Francis D. Cunningham, Richmond, chairman.

On Advances in Chemistry, Pharmacy, Materia Medica, and Therapeutics. Dr. John Herbert Claiborne, Petersburg, chairman.

(Dr. Claiborne has selected Dr. M. G. Ellzey, of Blacksburg, as a committeeman to report on Chemistry.)

On Advances in Obstetrics and Diseases of Women and Children. Dr. Robert J. Preston, Abingdon, chairman.

On Advances in Surgery. Dr. W. Otway Owen, Lynchburg, chairman.

On Advances in Practice of Medicine. Dr. John S. Apperson, Town House, chairman.

On Advances in Hygiene and Public Health. Dr. L. S. Joynes, Richmond, chairman.

Special Report on the Climatic Influences and Health Resorts in the Western Territories. Dr. B. G. McPhail, Salt Lake City, Utah, reporter.

Special Report on Poisoning by Eating Iced Custards, etc. Dr. J. S. Wellford, Richmond, reporter.

Special Report on Epidemic and Zymotic Diseases in Animals. Dr. John R. Page, University of Virginia, reporter.

Special Report on Yellow Fever. Dr. Robert B. Tunstall, Norfolk, reporter.

Subject for Discussion: Instrumental Labor. (Discussion open to any fellow or delegate who may wish to participate.)

The committee have also intimations of the preparation of some volunteer papers. Among them is one on the Diagnosis of Organized Heart-Clot, by Dr. M. L. James, of Richmond.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, OCTOBER 4, 1877. — NO. 14.

LEAD POISONING.¹

BY M. H. RICHARDSON, M. D.

IN this paper I wish to call attention to the deleterious effects of common white lead on men engaged in its manufacture, and briefly to consider one or two questions which have arisen concerning chronic lead poisoning since my entrance into the school. The mills, which through the kindness of Mr. Batchelder and Mr. Chase, of Salem, I was enabled to visit and very carefully to examine in every part, are two of the largest in New England. The metal first comes in contact with the skin of the men in being carried by hand from the cars to the melting room. Here many tons are melted at once and cast into thin, circular, perforated plates called buckles, of such shape as to expose as much surface as possible for the weight. The temperature is very high. Bathed in perspiration the men stand for hours inhaling the minute particles of the oxide of lead which escape from the cooling buckles and fill the air. Their thirst in this part of the process is insatiable, and enormous quantities of ice-water are swallowed, whereby the dust, which adheres to the tongue and lips, is washed directly into the stomach.

Having been carried to a neighboring shed, the buckles are placed over pyroligneous acid in earthen pots of about four quarts capacity. Many thousand of these pots are packed together in the refuse of stables or the exhausted bark from tanneries, and are exposed to the moderate heat which is spontaneously generated about them. The wood vinegar is volatilized and rises through the buckles, changing by some obscure chemical reaction the blue metallic lead into the white carbonate. After an exposure of this sort, lasting from six weeks to three months, the pots are unpacked and the whitened lead removed. Here for hours men breathe the vapors rising from the heated bark, loaded with poisonous particles of the now dusty metal. In English mills this part of the process is done by women, with most disastrous effects upon the health. To separate the blue from the white lead the buckles are placed in a revolving cylinder of wire cloth, through which the carbonate, more or

¹ Graduation Thesis, Harvard Medical School.

less pulverized, falls. The blue portion remains in the cylinder and is melted again. To be in this room without protection is suicidal, for the air is filled with visible clouds of dust. The utmost care must be taken. The mouth and nostrils are covered by a moist sponge to catch the floating particles. The skin and clothes quickly become white with lead. The semi-powdered metal, having been shoveled into barrels and rolled into another division of the works, is mixed with water and finely ground. When it fills the water as a milky precipitate, the whole is drawn off and dried on long tables at a temperature of 140 F. Formerly the grinding was done without water, and the lead sickness was much more common than now. The drying room is the most poisonous one in modern mills. It combines the effects of the dust which fills the air with those of a heated atmosphere. Here, as in the melting room, the skin is kept in the best state for absorption. A terrible thirst makes the men swallow large quantities of cold water with the lead which accumulates on their lips and tongues, while at every breath fine dust is drawn into the lungs.

The general appearance of the men is not good. The faces are sallow and more or less worn. The sclerotic coat is yellowish. Their motions are far from energetic, and in some cases eccentric and unsteady. One would say immediately, I think, that the general appearance is much below that of the average workman.

(1.) The first man examined has worked in all parts of the mill for thirteen years. His only trouble is rheumatism. The gums show a distinct blue line along the border.

(2.) After seven years in the corroding rooms has no symptoms excepting the blue line.

(3.) After grinding lead with oil has only the blue line.

(4.) After working in all parts of the mill for six months has had violent colic and great constipation. Blue line marked.

(5.) Reports only blue line after four years' work.

(6.) The machinist, after repairing in the drying room a few hours a day for ten days, was affected with colic and constipation. Has great habitual constipation. Blue line very marked.

(7.) After seven years only blue line.

(8.) After twelve years has only blue line and fungous, bleeding gums, with occasional colic and obstinate constipation.

(9.) After six years in corroding room has only blue line.

(10.) Has worked in all parts of the mill for fifteen years without showing a trace of blue line or any other symptom whatever. Very neat.

(11.) After three years only blue line.

(12.) After four years, nothing.

(13.) Blue line, rheumatic pains, and fainting fits. This was a remarkably neat man.

(14.) After four years no trace of poisoning.

(15.) After four years entirely used up. Had to leave all work.

(16.) After one year's work completely crippled, having paralysis of the extensors, aphonia, and general debility.

(17.) The carpenter, after repairing ten days in the drying room, had severe colic, obstinate constipation, and persistent blue line.

(18-75.) Of the rest of the seventy-five men whom I examined all had a distinct blue line about the gums, and, with one or two exceptions, habitual constipation. There was nothing further than this to suggest the presence of lead.

In addition to the above cases, three of the former employé's had suffered with difficulty in speaking, three with amaurosis, several with cerebral troubles, and many with paralysis. The superintendent has observed that the most frequent complaint has been of swollen joints and aching bones. In the numerous cases of paralysis which he has seen during many years' service at these works, he has noticed that the wrists have become much swollen before paralysis of the extensors. A curious tradition exists among them that they cannot drink alcoholic liquors and keep up with their work, like laboring men in other manufacturing. Several cases were told me of men who quickly succumbed to the influence of the lead after beginning the use of strong stimulants.

The length of time that one can work surrounded by these poisonous exhalations is subject to immense variations. Some men have become paralyzed in less than a month; others exist for years. One man has outworked twenty others. As an illustration of this fact, and as a typical case of chronic lead poisoning, I will give in more or less detail the history of a case that is famous among the Salem lead workers, that of a man who for twenty-five years has been in the worst position the mill affords, — that of shoveling the dry, powdered lead, — and has seen forty-seven men leave the mills to die from the direct influence of the poison.

D. A., aged forty-two, born in Ireland, is the father of a fine large family, and a man of very temperate habits. He has worked twenty-five years shoveling dried carbonate of lead from barrels into the grinders. For twenty-five years he has been white with the clouds of dust in which he has worked. He is a man of very filthy appearance. His first symptoms came on two years ago. Up to that time he had owned cows, and had had an abundance of milk to drink. He sold his cows and left off drinking milk. Then his troubles began. Digestive difficulties arose, accompanied by obstinate constipation, and followed by colic.¹ Since that time he has been adding to his ailments, till now his case is as follows: —

¹ He had no dejection for twenty-nine days.

Face haggard, skin yellow, sclerotic coat of a yellowish tinge. Gums show a very marked blue line, with the interdental processes much shrunk. Hands and feet very cold, but not anæsthetic. They have been so for years. Skin all over the body of a peculiar, dead, waxy hue, known among workmen as the lead skin. Feet and legs considerably swollen. Has intense pain in great toe at night, which nothing relieves. Arms very much wasted. Wrists much swollen, while extensors of hand are completely paralyzed. Supinators intact. His gait is unsteady. His hands tremble violently when he tries to take his shovel. Yet he manages to shovel six tons of lead daily.¹

By recapitulating we find (1) that all the men examined have sallow complexions and discolored sclerotics. (2.) All but three show blue line. (3.) There is more or less constipation and digestive disturbance. (4.) Colic in several cases. (5.) Paralysis in several cases. (6.) Amaurosis in several cases. (7.) Cerebral trouble in one case (fainting fits).

According to the authorities these symptoms occur in chronic lead poisoning. We should not, however, expect to find in the mills any severe cases, for after the appearance of the graver symptoms all connection with the mill ceases. We have, then, only the milder cases of chronic lead poisoning to consider. I wish now to discuss briefly two or three of the more common signs by which lead manifests its presence in the body; then, having decided that lead is present, to find out how it got in, how to prevent more from getting in, and, finally, to remove that which is already there.

The common signs of chronic lead poisoning are (1) blue line, (2) colic, (3) paralysis.

The blue line — le liséré de Burton, from Burton, who first described it in 1840 — is not a constant symptom, being caused, according to Tanquerel, by the action of sulphureted hydrogen from the decomposition of food around the teeth. We should not expect to find it on the gums of those who keep their teeth clean. In the cases given one man had worked fifteen years without having it. It was remarked of this case that the person was unusually neat. In the other cases given, where no blue line existed, the teeth were very clean. On the other hand, one case was found where, though the man was scrupulously neat in every way, there was discoloration. That the line is caused by the action of sulphureted hydrogen is shown by an experiment of Tanquerel, who digested in sulphureted hydrogen water the clean gums of a man dead with lead poisoning, thereby producing a blue line. To add evidence in regard to this point I tried a somewhat similar experiment. A strong,

¹ Urine peculiar in appearance. Light colored. Specific gravity low. No albumen. Abundant sediment of amorphous urates. No casts. Very small amount of lead was obtained by analysis, which was not weighed.

healthy cat was fed for a week upon milk to which had been added a small portion of a solution of plumbic acetate. At the end of a week the animal was killed, after having shown symptoms of severe constitutional disturbance. The lower jaw was excised, and the gums found perfectly clean. The upper jaw was also clean. The lower jaw was placed in water through which a stream of sulphureted hydrogen was passed for several hours. At the end of that time a perfectly distinct and unmistakable blue line was found throughout the juncture of the gum with the teeth. The stomach and intestines of the animal showed nothing remarkable. The presence of the blue line seems, therefore, to depend on a certain amount of putrefaction about the teeth. Tardieu cites the experiments of M. Gréchant to show that the blue substance is sulphide of lead. Dr. Burton noticed that after giving a salt of lead as a medicine the blue line appeared in less than twenty hours, and that having once appeared it was very persistent. Taylor gives a case where it remained years after the ingestion of the poison. Its absence, however, as we have seen in the cases given, is not proof that there is no lead in the body. Though the blue line appears from poisoning by the salts of mercury the difference is very easily seen, for in poisoning by mercury there is pain, heat, redness, and tumescence, with increased flow of saliva and looseness of teeth. The lead line has been obliterated by the use of calomel.

Colic. — The cause of this painful symptom is variously given. Indirectly, according to Tanquerel, the contact of the lead with the mucous membrane or with any abraded surface will produce it. That it may be caused by direct contact with the intestinal walls is undoubted. Moreover, the experiments of Schlöpf, who injected the acetate of lead into the trachea of a dog, producing colic, prove that it can be caused by absorption through the pulmonary mucous membrane. Tanquerel gives cases where colic has been caused by absorption from the eyes, skin, and vagina. On the other hand he was unable to produce it by the application of mercurial ointment to the unabraded skin of a dog. But cases are given in the *Journal de Médecine* where colic has followed the use of cosmetics. It is certain, however, in the case of these workmen, that the lead has a chance to act in all the above-mentioned ways, — being breathed into the lungs continually, taken into the stomach at every swallow, and absorbed uninterruptedly by the exposed surfaces.

When we inquire what is the direct cause of the pain we are still more in doubt. According to some it is an affection of the muscular coverings of the abdomen; others say of the colon. Dr. Eulenberg, of Berlin, describes it as “neuralgia mesenterica characterized by spontaneous paroxysmal pains occurring in the mesogastric region.” It is due, he says, to spasmodic contractions of the intestinal walls from the

peculiar effects which lead has on the vaso-motor system, that, namely, of producing contractions of the involuntary muscular fibre. Being deposited in the walls of the intestines it produces spasmodic contractions. M. Potain, in the *Journal de Médecine*, who, by the way, asserts that the colic follows intestinal absorption only, adds that the pain may be augmented by the presence of hardened masses in the intestines. He does not explain, however, that these "colicky" pains are relieved by pressure, the weight of two or three persons, according to Christison, sometimes giving relief, a thing one would hardly expect were M. Potain correct, for pressure must increase the irritation caused by the fæces. It is believed by some writers to be a neuralgia of the mesenteric plexus, just as angina pectoris is or has been believed to be a neuralgia of the cardiac plexus.

Paralysis of the extensor muscles of the hand usually follows colic. It is preceded and accompanied by a tremor and twitching of the muscles, as we have seen in some of the workmen examined. It well illustrates the effect of lead on the nervous system. Dr. Hollis says that the muscles implicated, supplied by the weakened nerves, are not equally disturbed, but that "the peripheral ultra-muscular elements may be affected, while those closely adjoining may not. If certain fibres of a muscle are weakened by loss of nervous power, an uncertain intermittent contraction of the enfeebled fibres will in all probability replace that sustained state of gentle contraction which produces their tone in health, and consequently a general tremor of the affected muscles will quickly ensue."

The paralysis, according to Dr. Hollis and Dr. Heubel, is caused by weakening or destruction of nervous force. M. Potain, on the other hand, says that it is due to muscular obliteration and atrophy caused by derangement in the vascular supply. In this way, by disturbance of the interosseous arteries, he accounts for the paralysis of the extensors alone.

It is often important to distinguish paralysis caused by lead from rheumatic and traumatic paralysis. This can be done if we remember that in the two latter forms the supinators are affected, and in lead poisoning the extensors only. Moreover, the power of muscular faradization is lost in lead paralysis, while this is not the case in rheumatic palsy, but is in that of traumatic origin. There is anæsthesia in traumatic cases, and none in those arising from lead and rheumatism. Bernhardt, in *Virchow's Archiv*, states that this is not enough for a differential diagnosis in many instances without a close examination in other ways.

The question of absorption of lead leads us in the first place to inquire into the possibility of the volatility of lead salts at ordinary temperatures. Mead, in his work on poison, in 1708, had observed that

the melting of lead which had by exposure become coated with lead salts was much more dangerous than the melting of the fresh metal. Orfila, Christison, Tanquerel, Taylor, Tardieu, Reese, and others remark that lead compounds are spontaneously taken up by contact with any volatile substance, and they give cases of poisoning from the supposed inhalation of lead vapors. Dr. Lewis, in some very emphatic articles in the *Medical Times and Gazette*, speaks often of vapor mixed with lead, especially in that part of the making where the buckles are unpacked.

Not long ago a case was reported at the Medical School in which, I think, seven grains of lead were said to have been found in the urine of a man who had been taken sick after sleeping in a newly painted room. I did not believe that any salt of lead could be volatile at ordinary temperatures, and, to satisfy myself, tried the following experiments: A current of air was caused to pass through common white-lead paint; thence, after suitable precautions, it was conducted directly through distilled water. As the air bubbled through the delivery tube a strong odor could be perceived, resembling paint. The water, after several hours, was tested with a current of sulphureted hydrogen. There was no precipitate. Next, the current from the paint was passed through dilute sulphuric acid, water without any precipitate being formed; and lastly, through sulphate of soda in solution. Had there been any volatile compound of lead, or had there been any lead mechanically suspended in the current, it would have been detected by one or all of these experiments.

Elimination, according to some authors, is very rapid and complete. Others say that lead remains in the body for years. The fact that a dose of potassium iodide, given to a person who has been for months free from the ingestion of fresh poison, will produce symptoms of saturnine intoxication seems to support the theory that it is stored up in the body. According to M. Potain it is eliminated slightly or not at all by the kidneys, very slightly by sweat, and not at all by the saliva. He does not explain the source of the lead to form the blue line. M. Potain says it is eliminated naturally as albuminate of lead. That the whole skin assists in its elimination is shown by the blackening of all parts of the body in sulphur baths.¹ The bulk of authority goes to show that once deposited it is very slowly eliminated.

In the treatment of chronic lead poisoning the first thing to do is to prevent the ingestion of more lead. Then we should at once send away all the workmen from the mills, — an impossible thing to do.

Cleanliness is absolutely necessary. The hands should be frequently and thoroughly washed, the mouth should be rinsed often, and the lips and face kept clean, especially before eating and drinking. When

¹ It has been found in both urine and milk.

particles of dust fill the air, sponges moistened with water should be placed over the mouth and nose. The rooms of the mills should be large, well ventilated, and clean, being dampened and swept every day. The mill clothes should never be worn home.

The hands of the men are apt to shrivel and crack. The cracks though raw are insensible to pain from the local anæsthetic action of the lead. In the long run lead will penetrate quite deeply into the skin, and be more or less completely absorbed. To remove this the following method is in use in the mills of France:—

A bath of ten litres of water is prepared, in which four hundred grammes of common salt and eight hundred of sodic carbonate are mixed, hypochlorite of soda being formed. In this the men are obliged to scrub themselves once each day. They come out quite bleached.

As an antidote, sulphuric acid should be taken as a beverage, and frequent purging with salts of magnesia should be resorted to.

A remarkable case is given in the *Journal de Médecine* of the effect of the habitual use of milk in white-lead works. It will be remembered that in the case given above it was mentioned that as long as a great deal of milk was taken no serious effects were noticed from lead. In the French mills it was observed that in a large working population two men who drank much milk daily were not affected by lead. On the general use of milk throughout the works the colic vanished entirely. Each operative was given enough extra pay to buy a quart of milk a day. From 1868 to 1871 no cases of colic had occurred.

To remove lead from the system seems to require the use of potassium iodide. But if we add potassium iodide to a solution of plumbic acetate or of any soluble lead salt outside the body, we have an insoluble yellow precipitate. What, then, is the action in the system? According to Sir Henry Thompson a double iodide of lead and potassium is formed, which is soluble. At all events an increased excretion follows doses of from five to ten grains three times a day.

If, then, this is the action of potassium iodide we should expect the production in a more marked manner of the symptoms of lead poisoning. Such is the case. By increasing the dose of the iodide the patient can be brought to plumbism. This fact would go to show that lead is not rapidly and completely eliminated. A mixture of equal parts of honey and sulphur in fifty-gramme doses is recommended by English and French authorities.

Prognosis. This would be favorable in all these professional cases could the workmen be removed from the mills. They obstinately refuse to make the slightest effort to avoid danger. Mouth sponges are constantly on hand. Sulphuric acid lemonade is continually urged upon them. Fine bath rooms, fitted up nine years since by the Salem company, have been turned into store-rooms for want of patronage.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.

BY F. I. KNIGHT, M. D.

Lupus of the Larynx. — Dr. Grossmann¹ demonstrated a case of this rare affection of the larynx to the Gesellschaft der Aerzte at its meeting on May 11th. The patient had been shown once before by Professor Neumann on account of primary lupus conjunctivæ. In the epiglottis there was cordiform loss of substance, as in Türck's cases. The neoplasm was visible on both vocal cords and on the left ventricular band. The function of the vocal cords, however, was not affected in either respiration or phonation.

Türck² has reported four cases of lupus of the larynx, about the diagnosis of which he thought there was no doubt, and one case with regard to which there was doubt. Ziemssen also has reported one case. Five of the preceding six cases occurred in the female sex, and were all in children (from nine to fifteen years of age). The man was forty-five years old. Neither the age nor sex of Dr. Grossmann's patient is given in the report, which is not so much to be regretted as the absence of any exact description of appearances.

Tuberculosis of the Pharynx. — Dr. B. Fränkel³ has observed six cases of tuberculosis of the pharynx. They occurred especially in youth or manhood. Ulcerations with loss of substance were found on the posterior wall of the pharynx, on the soft palate, uvula, and base of the tongue. Neither the occupation, place of residence, nor mode of life was such as to render the throat of these patients especially liable to irritation. They had never suffered from chronic disease of the pharynx, and there was no enlargement of the tonsils. Fränkel found disease of the apices of the lungs in all these cases, but several of the patients had referred their first sensations of trouble to the throat. The tubercular eruption in the throat was, at all events, not a late manifestation, Fränkel having found extensive tubercular ulceration in the throat, with only catarrhal signs at the apex of the lung. On autopsy, also, the changes in the pharynx were found to be so great that this must be considered one of the first seats of deposit of the gray granulations. In all cases in which an autopsy was made, there was general or at least very extensive miliary tuberculosis. The ulcers in the pharynx itself had a markedly tubercular character; they were genuine lenticular ulcerations. The ulcerations, which extended superficially rather than deeply, had a caseous or lardaceous ground; occasionally it was granular in spots. The edges of the ulcers were irregu-

¹ Allg. Wien. med. Zeit., No. 20, p. 182. 1877.

² Klinik für Kehlkopfkrankheiten.

³ Berl. klin. Woch., No. 46. 1876. Monatschrift für Ohrenheilkunde, etc., No. 1. 1877.

lar, fatty, caseous, or surrounded by a narrow inflammatory border. A few gray, mostly submiliary granulations were found in the neighborhood of the ulcers. Where these were thickest and ran together there appeared to the naked eye a gray, so-called lardaceous infiltration, over which the upper layers of epithelium were stretched unaltered. On microscopic examination in one case Fränkel found a true isolated granulation, which contained giant cells, thus removing the last doubt concerning its nature.

Among the subjective symptoms the extraordinary pain of these ulcerations is to be especially noticed, which occurred not only during deglutition, but also spontaneously, and was variously described as pressing, stinging, or scraping. The patients dreaded to swallow, and avoided it as much as possible. Deglutition itself was difficult, and the microscope showed cellular infiltration between the layers of muscles, and cloudy swelling of the same. Solid food could be swallowed scarcely at all, and liquids frequently regurgitated through the mouth or nose. The ulcerations began mostly on the sides of the pharynx, and extended to the arches of the palate, the posterior wall of the pharynx, and velum palati. They seemed usually to incline to extension in a transverse rather than in a vertical direction, and not to invade the œsophagus; at least in those cases which came to autopsy the ulcerations stopped abruptly at the commencement of the œsophagus. On the other hand, they frequently invaded the tongue. The lips also were liable to attack. Finally, in all cases of tuberculosis of the pharynx as yet observed, the larynx also has been affected. In two of Fränkel's cases the larynx was free from disease when first observed; afterwards œdema of the epiglottis, which is seldom wanting, came on, and, with a diminution of the swelling, tuberculous ulceration of the same and of other parts of the larynx. In regard to diagnosis, Fränkel thinks the appearance of the ulceration by itself sufficiently characteristic to make it sure. Of course, no confirmatory means should be omitted in the examination. The course of the affection is usually rapid. In most of the cases a fatal termination from exhaustion was reached in from two to six months. Delirium sometimes appeared towards the end of life, to account for which in one case no material lesion could be found in the brain on autopsy, and which, therefore, was considered to be delirium from inanition. Treatment was chiefly limited to sustaining the patient; the topical use of astringents had no effect, but Isambert reports favorable results from daily brushing the ulcers with morphine and glycerine, a proceeding which might be indicated on account of the pain.

Dr. Secchi¹ also reports a case of miliary tuberculosis of the pharynx. A merchant, forty-two years old, from Silesia, consulted Dr. Secchi at San Remo, in December, 1876. He stated that he had no hereditary

¹ Berl. klin. Woch., No. 26. 1877.

tendency to consumption. In the summer of 1876 he had an ulcer near the junction of the hard and soft palates, on the left side, which, in spite of every local and constitutional treatment, would not heal. Gradually cough set in, but the patient attached little importance to this. Profuse expectoration, fever, night-sweats, emaciation, and general debility followed, and the patient was sent South as a last resort. On examination, December 19th, Dr. Secchi found the following condition: Much emaciation; skin dry and very hot; complexion pale, almost dirty yellow; pulse 112; almost complete aphonia. The patient complained principally of severe, stinging pain in the throat, which shot up to the ears and rendered deglutition so painful that solid food was taken with great difficulty, and fluids even regurgitated easily. There was constant expectoration of tough mucus, which was sometimes purulent. On examination it was found that the right side of the palate was perfectly free from disease, but on the left there was a large superficial ulcer, which extended from about the middle of the hard palate to the arch, being about two and a half centimetres long and one centimetre broad, with irregular edges and a dirty yellow, fatty base. A second ulcer on the mucous membrane of the cheek extended from near the former to the first molar tooth. There was a third ulcer on the left side of the tongue. In the neighborhood of the first ulcer, little yellow knots of the size of a pin's head could be seen partially ulcerated. Similar little knots and lenticular ulcerations, of small size, were seen on the epiglottis, which was œdematous, and, in the extremely irritable condition of the patient, did not permit a thorough examination of the larynx. The lymphatic glands on the sides of the throat and under the lower jaw were much swollen. In the chest there was dullness on the left in front as far as the third rib; on the right as far as the second rib; behind, bronchial respiration in both supra-spinous fossæ, in the left especially sharp, with "klinging" râles on cough. Deglutition became more and more painful, and on December 31st numerous miliary gray granulations were discovered on the right half of the palate, some of which had already broken down into little round, yellowish ulcers. The disease now advanced rapidly. A superficial ulcer, with lardaceous base, was formed on the right side, as it had been on the left, and soon extended to the arches of the palate and the tonsils, whilst the first ulceration also extended farther backwards. Signs of a cavity appeared in the left lung, and the patient died January 27, 1877. Unfortunately, an autopsy was not allowed. It was difficult to say whether the disease began in the throat or in the lungs, but the patient first complained of the throat. The treatment by Dr. Secchi consisted merely of the local application of morphia to the throat, and cleansing the pharynx by a gargle of a weak solution of thyme oil, which also facilitated the throwing off of the thick, tough secretion.

On the Sysdesmology of the Larynx, with Some Remarks on the Diagnosis and Treatment of Paralysis of the Glottis Openings. — Dr. Max Bresgen¹ found in the larynx of a patient, whose history he could not obtain, a white band about two millimetres broad, running, on either side, from the arytenoid cartilage, over the pharyngeal surface of the musculus transversus, to the posterior surface of the cricoid, exactly in the line of insertion of the posterior crico-arytenoid muscle. This ligament was about four millimetres shorter on the right side than on the left, being measured from its upper insertion to the upper edge of the cricoid cartilage. Consequently the right arytenoid cartilage was bent over far backwards, and the ligament was tightly stretched. This latter sent a little segment to the cartilage of Santorini. On the left side the ligament went only as far as the articulation of the arytenoid cartilage with the cartilage of Santorini. The motility of the left arytenoid cartilage was comparatively little affected, but that of the right was lessened. By this condition the respiration and especially the inspiration might have been considerably obstructed in life, and indeed the right cartilage of Santorini could have moved but little, so that if one had examined with the laryngoscope the question of paralysis would have arisen for consideration. Dr. Bresgen thinks, if other such cases should be found, that not only would one be justified, but that it would be his duty, in case of impeded action of the glottis-opener, after paralysis from primary destruction of the nerves and muscles has been excluded, to think of the possible existence of such a mechanical impediment as existed in the above case. In such case the motility of the cord would be restored after simple section of the abnormal bands. Dr. Bresgen thinks it probable that these bands arise from the aggregation of tendinous fibres in the fascia of the musculus transversus. One thinks also of the possibility of this being an anomaly of the ligamentum jugule (Luschka), which connects the two cartilages of Santorini with the upper edge of the cricoid cartilage between the arytenoids.

(To be concluded.)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

MAY 26, 1877. Sixty-six members were present. The president, Dr. C. D. HOMANS, in the chair.

Umbilical Hæmorrhage. — Dr. ROTCH reported the following case: —

“On the first of March, 1877, I delivered of a male child Mrs. M., a Russian Pole, nineteen years of age, always strong and well, and already hav-

¹ Virchow's Archiv, lxxvii, 1, p. 71. Monatschrift für Orenheilkunde, etc. No. 10. 1876.

ing had one healthy child now living and eighteen months old. Mrs. M. has never had any miscarriages, and states that her parents were healthy; her husband appears to be a strong man, also a Russian Pole, and states that he has always been well, and that his parents were healthy. The labor was a normal one, the child presenting in the first position, and nothing unusual was noticed, excepting that the placental end of the cord continued to bleed quite freely, notwithstanding the application of two ligatures. On the day after both mother and child were doing well; the latter, though looking a little jaundiced, was reported to be nursing well, and the former had plenty of breast-milk. Fourteen days from this time I again saw the child, when the following history was given to me: The mother had always noticed a little bleeding around the insertion of the cord; the cord fell off on the eighth day; since then there had been a slight oozing of blood from the umbilicus; on the previous night the hæmorrhage had become so excessive that the parents were alarmed and sent for me. The child was found to be decidedly jaundiced, though not deeply so; it was nursing well, but looked thin and puny. Percussion and auscultation revealed nothing abnormal in the thoracic or abdominal cavities. Pale, watery-looking blood was oozing from the umbilicus, and quite a large cloth was shown to me, giving evidence of considerable hæmorrhage. The umbilicus was plugged with small pieces of lint soaked in the perchloride of iron, firmly compressed by a bandage, and alternate drop doses of the fluid extract of ergot and the tr. ferri chlor. were ordered to be given three times daily.

"On the following day, March 15th, the hæmorrhage had somewhat abated, but it was not thought advisable to remove the bandage; the ergot was stopped on account of nausea.

"March 16th. The child had been vomiting and crying a great deal, and the plugs of lint had been forced out of the umbilicus, leaving a bleeding surface; the umbilicus was again tamponed with Monsel's solution of the subsulphate of iron, and the tr. ferri chlor. was omitted, as it caused vomiting. The child's lip was pricked by a pin the day before and has since bled continually; bleeding point cauterized with stick of nitrate of silver.

"March 19th. The blood from the umbilicus has ceased to flow from under the bandage; that from the lip was arrested by the caustic for two hours, but then returned and has since continued; nitrate of silver again applied to lip. Child nurses well.

"March 24th. Hæmorrhage from lip continued after application of caustic for another day and then stopped.

"March 29th. Bandage and lint removed and abdomen washed; no bleeding; child looks better and is not so yellow.

"April 20th. Child reported to be perfectly well.

"April 28th. I was present at the child's circumcision, which was done without accident, the hæmorrhage being immediately arrested by a weak solution of iron.

"April 30th. No bleeding, child doing well.

"I saw the child for the last time May 10th, when, although still weak and puny, it was doing pretty well, and all signs of jaundice had disappeared. A small umbilical hernia existed.

“*Summary.* A child born of healthy parents has bleeding from the umbilicus, with jaundice, for twenty-two days, and bleeding from the lip (with the exception of two hours) for five days.

“The hæmorrhage appeared to be entirely uncontrolled by styptics, and but very slightly so by pressure.

“The recovery of the child cannot be attributed to any medicine, as none was given excepting for two days, when it was immediately vomited.”

DR. LYMAN inquired whether the bleeding was from the umbilical vessels or from the raw surface around them.

DR. ROTCH replied that it was from the centre of the umbilical depression. The discharges from the bowels were normal.

Ovariectomy. — DR. LYMAN showed an ovarian cyst lately removed. The case will be published in full.

Epithelioma. — DR. C. B. PORTER exhibited an eyeball and eyelids removed for epithelial disease of ten years' duration. It started in the lower eyelid, and had grown very fast in the last year, invading the eyeball. On laying bare the eye it was found that the sclera and cornea were involved. Enucleation was performed. The position of the upper lid on the diseased surface below appeared as if it might have caused transplantation of the affection to that lid also.

DR. ELLIS said, in regard to the possibility of the disease being ingrafted upon the upper lid from the parts below, that it was well to consider that it might have occurred there in its natural course.

DR. PORTER replied that he offered the suggestion only as giving a possible cause for the appearance, since the nodule was surrounded by healthy tissue.

Glandular Tumors. — DR. PORTER showed also a number of glandular tumors of varying size up to that of a duck's egg. Three years ago he had removed similar tumors, five ounces in weight, from the carotid and submaxillary regions of the same patient, but they had reappeared in the lower part of the neck. At the second operation the glands were carefully dissected from the sheaths with little hæmorrhage. The operation took two hours. Antiseptic dressing was used, and in ten days the patient was about the wards. The temperature rose one degree when the carbolic dressing was omitted. The recovery was perfect.

Excision of Jaw. — A patient whose upper jaw had been excised two weeks before by Dr. Porter was brought in for the inspection of the members. A tumor starting from the alveolar arch had extended through the antrum and into the mouth. Laryngotomy was first performed and the pharynx packed with sponges. The jaw was removed in the usual way. The superior maxilla was found to be nearly absorbed. On examination by Dr. Fitz the disease proved to be epithelial cancer, which had gradually grown upward, involving the orbital plate.

The operation for laryngotomy turned out more serious than the excision of the jaw, since emphysema resulted which lasted for several days. The jaw was removed to relieve pain, as the patient had been obliged to take a great deal of opium, and said that he would prefer to die on the table rather than suffer as he had. The result in that respect was very satisfactory, as he had had little or no pain since.

The Abuse of Medical Institutions. — DR. A. P. RICHARDSON read a paper on Medical Institutions, in which he stated that the original purpose of hospitals had been perverted by the custom of treating gratuitously all who apply, whether they can afford to pay for services or not, thus diverting the legitimate profits of the ordinary practitioners. The reader thought that the public good did not require private, special dispensaries, and regarded these and the out-patient departments of the hospitals as stepping-stones for the few who were made by their appointments to appear superior to others.

DR. S. L. ABBOT said that, although there was truth in the paper just read, the question was difficult to solve, and that the trustees of the Massachusetts General Hospital had recently been trying a plan by which no injustice should be done; that during ten years when he was out-patient physician most of the patients could not pay for continued medical attendance. When they could pay they were called upon to do so. Under the present plan at the hospital every patient is expected to pay a small fee at the first visit. Should he appear subsequently, he is notified that the hospital relief is intended for the poor only, and that he must seek advice elsewhere. Those who say they cannot pay are visited by an attendant who inquires into their circumstances. As far as possible every one who can pay is excluded.

DR. F. A. HARRIS knew of many instances where patients who were well able to pay were allowed to go to the hospital. Apart from the necessity for clinical material there should be a limit to charitable practice. During the past year one hundred thousand cases had been treated gratuitously in Boston. After an experience of one year in dispensary practice, Dr. Harris had concluded that each case could pay one dollar. He said that the old-fashioned prejudice against hospitals no longer existed, and that the abuse which now prevails had pushed many of the younger members of the profession very hard.

DR. RICHARDSON asked if any such system of visiting as that spoken of by Dr. Abbot could cope with the deception of the poor who wished to be deceitful. He thought that the trustees of a hospital had no right to treat those who came for twenty-five cents, unless they were intended to think that that was all the advice was worth. In Dr. Richardson's opinion the only remedy was to close the doors to out-patients.

DR. LYMAN, on investigating the subject several years ago, had thought that one fourth of the citizens of Boston received gratuitous medical advice. Great abuses had existed here and in Europe for many years, but hospitals and dispensaries were essential, and some method was desirable which would take care of the deserving poor only.

DR. HARRIS thought that the system of charges in out-patient departments induced a certain number to go there who might have too much pride to go for nothing, and that those who could pay at all should be sent somewhere else.

DR. C. C. STREET related a case where a patient had been told at a hospital that the womb was injured in her last confinement when she was under his care. How it was known whether it was in that confinement or a previous one had not been stated. He had to sue for his bill, which was recovered. Dr. Street said that such statements should be made with great caution, and no

doubt often did harm unintentionally. The duty incumbent on the whole profession of resisting suits for damages brought upon trivial grounds was alluded to.

DR. C. E. WING read a paper on the Specialty of Diseases of Women, which has been printed.

DR. J. B. FOLEY showed a specimen of epidermis exfoliated from the hands and feet during scarlet fever.

DR. FLEMING read a letter from Dr. W. H. French, describing the climate of the Ojai Valley in Southern California, which was published in the JOURNAL of September 13th.

DR. BOWDITCH said that this letter confirmed his impressions that the climate of the interior of Southern California was better than that of Santa Barbara. He also mentioned Thomasville, near Savannah, Georgia, as being high and salubrious, with an excellent hotel, conducted by a superintendent who understood the comfort of Northern invalids.

THE HAIR IN HEALTH AND DISEASE.¹

THIS little volume, intended for both the profession and the public, has been prepared by the author in accordance with a plan originally contemplated by himself in association with the late Mr. Naylor, and a considerable portion of it is adopted from the last edition of the latter's work on Diseases of the Skin. We cannot altogether commend it, because to the physician it conveys nothing new and far less information upon the topics of which it treats than may be found in other books of a similar character and in most modern works on general dermatology, while to the public it fails to furnish all the practical instruction which they have a right to expect in such a treatise.

It describes briefly the anatomy and physiology of the hair, and treats of alopecia, canities, hirsuties, the vegetable and animal parasites of the hair, and of hair dyes. Under alopecia the author makes only a mere allusion to one of the most common causes and forms of the affection, alopecia furfuracea, or seborrhœa. The book abounds in whimsical notions: for example, alopecia areata, it is stated, is "connected with the presence of ascarides;" and partial baldness "frequently occurs in those who consume large quantities of food, and in both sexes is not seldom a consequence of hæmorrhoids and ascarides." Early canities is said to be due in some degree to free perspiration of the head. The spontaneous generation of lice is discussed as if it were "a point on which there exists a difference of opinion." The book is not wanting in errors, moreover. The crusts of favus, for instance, are said to lose after a time their distinctive fungoid character, while the common origin of parasitic sycosis and tinea tonsurans is denied.

The best portion of the book is the therapeutical part, which is on the whole very good.

J. C. W.

¹ *The Hair in Health and Disease.* By E. WYNDHAM COTTLE, F. R. C. S. Eng., Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars. Philadelphia: Lindsay and Blakiston. 1877. Pp. 147.

THE METRIC SYSTEM IN THE SCHOOLS.

THE Boston school committee has, we fear, disappointed the friends of the metric system by voting that it be taught as a separate branch instead of adopting it as the medium of expression. The great difficulty in the way of its adoption is that many even of those who understand it look on it as strange and unfamiliar. They can translate, so to speak, the usual weights and measures into their metric equivalents, but they do not think in metres, and it is essential that they should do so. It was all very simple in Prussia to hang up metres and litres in prominent places, and to announce that after a certain date sales and bargains made according to other systems should not be valid; that is a measure that a free country will not submit to. The only chance the metric system has of adoption is by becoming the most familiar, as it is the most convenient one. When this is once brought about, legislation will be superfluous; the system will introduce itself; and till this is done no amount of forcing can bring it into general acceptance. This can be done only by the schools. It certainly is a gain to have it introduced even as a study; this will tend to remove prejudices, and in a few years the school committee may see the wisdom of adopting it as a basis.

THE WOODRUFF SCIENTIFIC EXPEDITION.

THIS excursion, which we believe is about to sail, is certainly a remarkable one. Its object is science, and it will visit several countries but little known; still it is not, strictly speaking, a voyage of discovery. It is rather an educational undertaking than anything else. It is a traveling, scientific school that claims the world as its museum. Many a specimen that will serve as a "subject" for object-teaching is now playing in the deep, unconscious of its doom. We shall be surprised, indeed, if some important addition is not made to our knowledge of animal and vegetable life. This, however, is not the purpose of the expedition; it is to give the young men who take part in it an opportunity for instruction which they will better improve by faithful study and observation of known facts than by searching for new ones. Really original work had better be left to the teachers.

The trip is to last two years, and the route seems to us a well chosen one. The faculty contains men of reputation, and we understand that measures have been taken to furnish amuse-ment as well as instruction during the voyage. Arms and ammunition are taken for hunting and defense, and should the latter be necessary there is a military officer to command. The expedition has, moreover, received a semi-official recognition by the government that will insure it attentions from foreign countries. The scheme is a novel and comprehensive one; it must, of course, as yet be regarded as an experiment, and no one can foretell what internal or external difficulties it may meet, but whatever they may be it is to be expected that the energy of those who have started the plan will be sufficient to cope with them.

THE PRESS AND THE PROFESSION.

THE death of Mr. Davenport, the celebrated actor, has led to one of those offenses against decency of which the press furnishes too many instances. *The New York Spirit of the Times* appears to have given out that Mr. Davenport's death was due to "acid pills," given by a Boston quack. Dr. Henry A. Martin, who had charge of the patient during a part of the summer, published a letter in the *Boston Post* of September 20th, stating that he had given salicylic acid and denouncing the statement of the *Spirit* with well-deserved severity. Whether or not this was worth while is a matter of opinion; but it is certainly natural for any one unjustly and coarsely assailed to desire redress. It has been suggested that it is our duty to protest against offenses of this nature, but there is, in fact, very little to say. If journals of a certain nature can increase their sale by such courses, there is no doubt they will follow them while they can do so with impunity. The only remedy is to be obtained by law, and is proverbially tardy, expensive, and often unsatisfactory.

There is, we think, a great deal published in daily papers concerning the relations of physician and patient, especially if the latter is at all distinguished that had better be left alone. Doctors are frequently credited with opinions they never expressed, to the injury of their reputation. The whole subject of the state of a sick man is of too private a nature to be properly discussed in public, either during his illness or after his recovery or death. We fear, however, that the papers are not the only nor often the chief offenders in this matter. There are, we fear, physicians who are by no means averse to this, form of notoriety, and those who court it are far more to blame than the journalist who takes whatever he thinks to the advantage of his paper. Such physicians are in our opinion lowering the dignity of the profession, and opening the door to such abuses as the one mentioned above.

MEDICAL NOTES.

— We understand that the committee on the Warren Triennial Prize, the physicians and surgeons of the Massachusetts General Hospital, at a meeting held September 27th, awarded the prize to an essay entitled *On the Healing of Arteries after Ligation*. The author of the successful essay is Dr. E. O. Shakespeare, of Philadelphia.

This is one of the largest prizes in the country, the sum for this year falling but little short of four hundred dollars, and was offered to the writer of a successful essay embodying original researches in physiology, surgery, or pathological anatomy. The number of competitors was exceedingly large, and several of the essays reflected great credit upon the industry and ability of the writers.

— On Thursday, September 13th, the Essex North District Medical Society, together with the members of the New Hampshire and many of the prominent men of the Massachusetts medical societies went down Boston harbor on an excursion to Nantasket. The "exercises" consisted of a dinner and speeches. The latter do not appear to have been labored oratorical produc-

tions, but light, amusing, and sensible. Drs. Cotting and Cogswell, presidents of the society of this State, were among the speakers. The trip was very successful, and we hope will encourage other societies to follow so good an example.

— The Grindelwald glacier, says the *British Medical Journal*, is being used as a domestic supply of ice. Sixty men are daily employed in quarrying the glacier, cutting out blocks of ice one hundred and fifty pounds in weight. A tramway takes the ice to Interlaken, the descending trucks drawing up the returning empty ones. The ice is used not only in Switzerland, but is also sent abroad, a cargo having lately been supplied to the Bulgarian hospitals.

— We learn from *The Medical Press and Circular* that, “as an illustration of what curious superstitions still lurk amongst rural populations, the *Students' Journal* mentions that at Rivesaltes, in the south of France, some terrible cases of hydrophobia have recently occurred. The local authorities, therefore, determined to adopt preventive measures, and accordingly sent for some *salondadons*, or, as we should say, *seventh sons*, who in those districts are believed to have the miraculous power of curing the bites inflicted by mad dogs, and of blessing small pieces of bread called *passagnats*, which are supposed to ward off hydrophobia. The *salondadon* performs his cures by means of a crucifix, uttering the while various sacramental words from a liturgy peculiar to himself. The seventh sons are supposed to have a variety of other powers not granted to ordinary mortals, such as treading under foot or applying to the tongue a bar of red-hot iron without receiving any injury.”

— Under the name of “oenokrine,” says *The Medical Record*, a new test-paper, which, it is stated, will at once detect the presence of any artificial coloring matter in wine, has recently been introduced into notice in Paris. When the paper is dipped into pure red wine it is immediately colored grayish-blue, and becomes lead colored on drying. On the other hand, when moistened with wine that has been artificially colored by fuchsine or other aniline substances, the test paper assumes a bright carmine-red color; when the wine has been colored by ammoniacal cochineal, the paper becomes pale violet; when by elderberries or mallow flowers, bright green; when by logwood, the color of the husks of pressed grapes; when by Brazil wood or scarlet grains, dirty yellow; when by indigo extract, deep blue. The method of testing is very simple: a strip of oenokrine paper is left for about five seconds in pure wine, and is then well shaken to remove the excess of fluid, and laid upon a sheet of white paper, which brings out the color more sharply. A second strip of the test paper is then moistened in the suspected wine and laid alongside the first, when any difference in the color of the two will at once become apparent. It is positively stated that even one hundred-thousandth of a part of fuchsine in the wine is sufficient to give the paper a light-violet color, while a large quantity brings out a bright carmine-red. Lainville and Roy, the discoverers of “oenokrine,” assert that they have also discovered a method by which the fuchsine can be removed from the wine without injuring the latter.

— The forty-fifth annual meeting of the British Medical Association was held at Manchester, beginning on August 7th. In the morning the members

attended divine service at the cathedral, and listened to a sermon by the bishop of Manchester. In the afternoon, at the general meeting, addresses were delivered by the retiring president, Dr. De Bartolomé, and the newly elected president, Dr. Wilkinson, of Sheffield, where the meeting is to be held next year. The address on surgery was given by Spencer Wells. Sir William Jenner made the opening address at the meeting of the section of medicine. Dr. Priestly presided over the section of obstetrics, and Dr. Bucknill over the section of psychology. Among the subjects discussed at the surgical section were urethral surgery and various forms of dressings, the most novel of which was that shown by Mr. Waddy, of Gloucester, which consisted in the use of terebene and the formation of a scab. The report of the section on public medicine was exceedingly full, and showed the activity of the association in this department.

— We are indebted to one of our recent exchanges for the following abstract of experiments, performed by M. J. Guérin. He wished to determine whether the stools in typhoid fever had a poisonous action. He sought more especially to determine whether the dejections of typhoid-fever patients contained an infecting matter from the beginning: —

(1.) Subcutaneous injections of diarrhœic typhoid stools were made on twelve rabbits. Ten of the rabbits died in the course of the first four days, while one died a month after, and one recovered.

(2.) The heart's blood of a rabbit which had died on the third day after the injection of the typhoid stool was inoculated in another rabbit. This rabbit died on the next day. Injections of fæces which came from individuals suffering from other diseases were without any results.

(3.) Fæces, intestinal blood, urine, detritus of swollen mesenteric glands, and constituents of intestinal ulcers which came from a typhoid-fever patient were inoculated on twelve rabbits. These all died at the latest thirty hours afterwards, with severe general symptoms. Three of them had diarrhœa. Post-mortem examination showed no characteristic changes.

(4.) Material which came from typhoid-fever patients (blood, urine, and fæces), and which had been kept four months, was inoculated on six rabbits. All these animals died without showing characteristic changes on dissection.

The conclusions which the author arrives at from his experiments are as follows: —

(1.) Typhoid stools immediately after being passed contain a poison which kills rabbits in a short time.

(2.) The blood and urine of typhoid-fever patients has the same quality, as does also the detritus of swollen mesenteric glands, and typhoid intestinal ulcers.

(3.) This property is not lost by keeping the material for months.

(4.) The fæces of healthy individuals or of those suffering from other diseases do not possess this property.

— As a remedy in migraine the juice of a lemon is squeezed into a cup of black coffee, which is then taken at once to alleviate the migraine in its course, or to arrest it at its commencement. Possibly the citric acid in this case acts by disengaging the caffeine, or by forming a salt with it.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. G. W. GAY.

Cystic Tumor of Cheek ; Tetanus ; Recovery.—Annie L., aged twenty-one years, entered the hospital May 14, 1877, with a tumor in her left cheek of a year's duration. It was the size of an English walnut, soft, ill-defined, not fluctuating, nor diminishing under pressure. Its mucous surface was bluish and lobulated. There was no enlargement of the lymphatics, and no pain. The tumor had been punctured at one time, but only a little blood came from it. The diagnosis was uncertain, as the growth presented some features which are found in cysts, myxomas, and erectile tumors.

The patient having been etherized an incision was made by the mouth into the tumor, showing it to be a cyst containing a thin, bloody fluid. A portion of the sac was excised and the interior lightly touched with nitric acid. Everything went on well, and the patient was discharged in ten days with the wound nearly healed and the sac obliterated. In less than a fortnight after leaving the hospital she began to notice a little difficulty in opening her mouth. The stiffness of the jaws gradually increased till June 25th, when she had three spasms in rapid succession, and was readmitted to the hospital. Her mouth was firmly closed. Sixty grains of chloral were given her in divided doses, and the next morning she could open her mouth three fourths of an inch. The pupils were widely dilated and the patient was very drowsy. Half a drachm of the bromide of potassium every three hours was then ordered in place of the chloral.

At the end of forty-eight hours she was worse, being scarcely able to separate the jaws. Chloral was added to the bromide of potassium in quantities sufficient to keep her drowsy, and was administered for ten days.

On being allowed to come out from under the influence of the drugs she had another spasm, the last one of her illness. Chloral was given at intervals in scruple doses for a week, when all medicines were discontinued.

The patient received from forty to one hundred and sixty grains of chloral daily, and toward the last she became very delirious at night. There was no failure of the heart's action at any time. The disease gradually wore away, and in forty days the patient left the hospital, free from pain, able to open her mouth an inch and to chew soft food.

Incised Wound through the Patella into the Knee-Joint ; Recovery.—P. McG., aged thirty-two, was struck upon the right knee by a sharp, heavy axe, in consequence of the breaking of the handle in the hands of a fellow-workman. The man entered the hospital shortly after the accident, August 11, 1877. There was a gash upon his right leg five inches in length, parallel to its long axis, and extending completely through the patella into the cavity of the joint.

The hæmorrhage was moderate, only one ligature being required. The wound was closed with silk sutures, and a compress wet in the compound tincture benzoin applied. The leg was put upon a ham splint, and the joint surrounded with ice-bags. A one-grain opium pill every four hours, liquid diet, and absolute rest in bed were ordered.

The wound healed by first intention. Large effusion into the joint took

place, but it all subsided in two or three weeks. The patient's temperature never went above 99.5° and he had no pain of consequence from first to last. The bone is now firmly united; there is no effusion in the joint; motion is good, and the patient is beginning to move about the ward.

Gunshot Wound of Face. — James C., thirty years of age, was shot by a pistol on the evening of August 26, 1877. We saw the patient an hour or two after the injury was inflicted, and found a small wound on the bridge of the nose. A gentle use of the probe revealed a fracture of the nasal bones, and a sinus extending into the right orbit. The right eye was full of blood, was softer than usual, pushed completely out of the orbit, and resting upon the outer surface of the lower lid and face. The sight was of course destroyed. There was also great effusion in the upper lid.

The patient having been etherized the right eye was removed, and a small pistol-ball, more or less flattened, was found pretty firmly lodged in the spheno-maxillary fissure, at the outer and back part of the orbit. The globe of the eye was wounded on its posterior surface, and completely disorganized internally. Hæmorrhage was moderate.

No ill results followed the operation. The inflammation was not severe and soon subsided. The wounds in the nose and orbit healed readily, and the patient was discharged well in twelve days. At no time were there any symptoms of brain trouble.

CLIMATE OF MARTINIQUE.

THE following letter is from the patient of a Boston physician, and is published by the permission of the latter. — EDS.

MY DEAR DOCTOR, — I did not write you from Santa Cruz, your Elysium, because I had heard so much in praise of this island that I wished to make my report on the climate of both at once. Though the climate of Santa Cruz is dry and equable, more so than that of any other place I ever was in, I cast my vote in favor of Martinique, as it is in a very flourishing condition, owing to a wise and stringent government, while Santa Cruz is much depressed, and offers no pleasure whatever to the patient except what he may find in his own resources. Good, plain living may be had at Santa Cruz, notwithstanding a general dearth of vegetables and fruits there which does not exist in this market. It is hardly fair to Santa Cruz to compare her with this island, because she is much smaller, and contains no high hills to furnish her valleys with water. The scenery in the interior of this island is said to be very fine, but it is rather inaccessible. However, I have been much pleased with my early morning rides along the shore and then up some valley or glen teeming with rich cane fields and wild tropical scenery in succession. At first I thought Martinique chilly and damp (or rather this town, owing to its being surrounded by hills), but I have now come to the conclusion that it was my fancy, caused by the running water with which the gutters are always supplied, and the fountains which are placed in every square, and with their splashing give the sound of falling rain. A peculiarity of the island is that a water-closet does not exist. Its place is supplied by an earthen jar in the form of a "tile" hat, which

stands in every dressing room, and is faithfully watched by the servant in charge. Early in the morning these servants congregate in the streets in front of their respective houses with these jars and clean them in the gutter. They seem to enjoy it, for it gives them a chance to gossip. The sight is more novel than the smell, though that is not very offensive, as the water runs swiftly down to the sea. The natural lay of the land is so favorable that this system of sewerage is probably as healthy as an underground system.

I also attribute the utter want of mosquitoes to these open water-courses. It is quite remarkable in such a warm climate not to find any vermin. Yet I have not been troubled anywhere with fleas, even. The mosquitoes are plenty everywhere except here, but all the hotels are provided with muslin bars to hang about the beds, which answer every purpose when they don't festoon them up during the day for ornament. I feel that the climate of the West Indies is just the thing that I have been looking for for two years. The thermometer does not vary here and in Santa Cruz more than ten degrees in the winter, and it usually stands at about eighty. Though the sun is very warm in the middle of the day, there is always a little breeze to keep you comfortable if you sit still in-doors. The night air is not as treacherous as that of Florida and other fashionable places of winter resorts for invalids, and frequently more than a linen sheet for a covering is oppressive. Of course we are enjoying all sorts of tropical fruits, but I have not found anything better than the orange and banana, which you are having as good at home as we are here. The sweetwater grape is plenty, as the vines bear three crops in the year.

These islands will never receive the attention they deserve from invalids until there is some established means of communication between them and the States. Since the discontinuance of the Garrison line to Brazil there is no direct line to St. Thomas. The cheapest and pleasantest route now to the latter port is from New York via Bermuda, though one may go via Havana, as I did. Santa Cruz is reached from St. Thomas by schooner in five hours, this place by steamer in two days. My plan is to get to Demerara from here and work north. I am feeling very well, though to-day the "Spanish fever" has got hold of me and I feel more like sleeping. In fact, among the islands one does not attempt to do much of anything but sleep, eat, and bathe.

E. B. R.

SAINT PIERRE, MARTINIQUE, December 24, 1876.

LETTER FROM ZÜRICH.

MESSRS. EDITORS, — In a previous letter I promised to send you notes of special cases occurring in the clinic of Dr. Horner, professor of ophthalmology in the University of Zürich. Knowing them to be of chief interest to oculists, I do not wish to assume too much of your valuable space, which by right is the property of the general medical reader. The cases are selected with reference to rarity and to the ideas expressed in treatment.

CASES I. and II. *Ectopia Lentis*. — Two brothers, aged eight and nine

years, complain of bad eyesight. Inspection shows blepharospasm, while examination by focal illumination and the ophthalmoscope reveals in each of the four eyes a dislocation of the lens upwards. It is known that the mother and two of her sisters have binocular dislocation of the lens downwards; that five sisters — the whole number of children in her family being six — are like herself, myopic; it is further found in the hospital protocol that the mother of the six sisters had some form of ectopia lentis. Here, then, are three generations with the same deformity, but with dislocation in different directions. In the two boys the lens is so far dislocated upwards against and under the ciliary muscle that an imaginary plane coincident with the antero-posterior axis of the bulb represents the limits of disturbance of refraction; that is, that part of the bulb above the plane, in the section occupied by the lens, is myopic, while the part below the plane is hypermetropic: in the former instance the eye is like a camera with a lens of increased refractive power; in the latter there is a total absence of the refractive element, the lens being gone, and this part of the eye being like one from which a cataractous lens has been removed in aphakia, and hence hypermetropic. The question may be asked, What was the refraction of the lens before dislocation, supposing for the moment that the malposition was not congenital? It is fair to suppose from the age of the patients that all four eyes were emmetropic: because, first, in the four upper segments myopia is of a high grade (see statistics below); second, in the two lower segments of one lad hypermetropia approaches that of a normally refracted eye in aphakia, one fourth to one half; third, if a high grade of myopia had existed it would have been increased, if possible, in the upper segment, and would have counteracted by so much the hypermetropia of the lower segment of the eye deprived of its lens; fourth, if a high grade of hypermetropia had existed the result would have been exactly the reverse of the last hypothesis, namely, proportionate neutralization of the induced myopia in the upper and increase of hypermetropia, if possible, in the lower segment of the eye. For a small amount of either anomaly it is not necessary to make account. Further, it is clear that the lower segment would have been emmetropic had a sufficient degree of myopia preëxisted to neutralize the acquired hypermetropia. Another interesting point is that through such a pupil of from 1.5 to 2.5 mm. diameter the optic nerve, seen in the inverted image, is optically smaller at the edge of the lens in the upper segment than in the lower, where there is no crystalline lens.

It is a debatable question whether in dislocation of the lens the zonula Zinnii is ruptured, or whether it is merely dragged to one side; or is there, as is highly probable, a primary deficiency in its fibres? In the left eye of one boy a partial defect was plainly to be seen with the ophthalmoscope. In the other three eyes of the patients were holes, but they did not present the character of interruptions of tissue, as was observable in this one eye.

A stenopaic apparatus without any correcting glass assisted vision in the lower, or lensless, portion; none of the lenses were cataractous; had such been the case the opaque lens would have removed the circles of diffusion, thereby improving sight.

It was stated that ectopia lentis was properly only a change of place, as ec-

topia cordis, vesicæ, uteri, etc., while the term luxatio has come to imply a change of structure and relation in addition to a change of place.

The ætiology of this malformation has been found by Arlt and Stellwag to rest in the same category as that of coloboma of the iris and choroid, with which it is sometimes associated. I have seen in Arlt's clinic a case of unilateral coloboma of the lower lid, iris, choroid, and lens, without, however, any dislocation of the lens; also the original case of coloboma of the iris and choroid in Jaeger's atlas, also without unilateral dislocation; and further, two cases of dislocation of the lens, one upwards and inwards, the other downwards, without any accompanying coloboma, showing that the ectopia may exist by itself.

The ætiology is purely anatomical, namely, a congenital defect or an unequal development of the zonula Zinnii. The malformation is usually binocular and symmetrical; that is, if the lens is luxated upwards and outwards in one eye, it is usually luxated in the same directions in the fellow eye. The luxation is oftener upwards than downwards, a fact which may be influenced by the embryonic development of the palpebral slit. The literature concerning this anomaly is interesting but meagre.¹

CASE III. *Herpes Corneæ Serpiginosa Recurrens, in its Third Attack.* — The patient had had iritis, the iris having lost its lustre, and being of a dead blue color. It is stated that this form of herpes is rare except when induced by trauma. From the latter cause nursery-maids often suffer, receiving the injury from a needle, pin, or hook sticking into the eye. It is always accompanied by loss of epithelium and the anterior lamella of the cornea, as in trauma; the contour of the spot is irregular and jagged.

This herpes was rectangular, the apex being nearly in the centre of the cornea, with legs of angle projecting, the one upwards and inwards, the other upwards and outwards. The characteristic feature of this case was the almost complete regularity of the outer lines of contour of the projecting legs, while the inner lines looking towards the superior limbus corneæ were very irregular and jagged. It was a typical form of herpes recurrens, but is not recognized as such by all oculists. It may be readily confounded with lupus corneæ. Horner stated further that it not infrequently follows herpes labialis, and that it is always the result of pneumonia, febris intermittens, or typhus. He had never seen a case unaccompanied by intermittent fever in some form, nor coming at any other time of the year than in the spring or fall; this patient had had recent febris intermittens. Its recurrence may be traced to a mechanical cause, as the lodgment of dust particles or of bacteria upon a portion of cornea deprived of epithelium. Careful examination brought to view minute bladders or bullæ, such as one sees occupying the stroma of the iris in iritis serosa, and supposed to be filled with serum. These were aggregated together

¹ Arlt. Augenkrankheiten. 1856. Bd. ii., page 275.

Donders. Accommodation and Refraction. 1864. Page 555.

Mauthner. Lehrbuch d. Ophthalmoscopie. 1868. Page 150.

Wells. Diseases of the Eye. 1869. Page 285.

Tetzer. Compendium d. Augenheilk. 1874. Page 311.

Becker. Graefe-Saemisch. 1875. Bd. v., page 285.

Schweigger. Handb. d. Augenheilk. 1875. Page 393, et al.

in the depth of the herpetic tract. The repair is slow and tedious, and the treatment is largely of an antiseptic character; the indications are to keep out foreign bodies from the herpetic sulci by a firm compress-bandage, cleansing the corneal surface, conjunctival folds, and even the canaliculi by means of antiseptic solutions used with a syringe, and atropine, especially if, as here, iritis may recur. The bandage is to remain from twenty-four to thirty-six hours without removal, and is changed only for purposes of cleansing the parts. Horner always dips the bits of charpie in salicine before washing away the secretions. He makes the compress of bleached cotton-wadding, washed in salicine. This material is prepared at the International Bandage Factory of Schaffhausen, Switzerland, a little manufacturing town lying on the border of Würtemberg, and is known as "wound-dressing cotton." Horner uses the same material as stuffing for the ordinary cataract bandage. He regards such an ulcer from a surgical point of view, and mechanically scrapes it from the bottom with the spoon, as one would any necrosed part. This instrument is much smaller than, but of the same shape as, Hebra's spoon for scraping spots of lupus or acne, so much in vogue in Vienna. He then applies liquor chlori in saturated solution directly over the ulcer with a pencil or glass rod. In some cases the rapidity of control and of establishment of vascularization is wonderful. This procedure is only resorted to at the intervals of exchange of bandages.

Extraction of Cataract.—The cut usually adopted by Horner for removal of uncomplicated cataract is the one originally proposed by Graefe, directly on the sclero-corneal junction; if there be any divergence it lies in the cornea and never in the sclera. Schweigger, for thirteen years Graefe's assistant, and now his successor in Berlin, delivers the knife entirely from the sclera, the outer and inner points of the cut lying in an equator from 1.5 to 2 mm. behind the limbus corneæ. One rarely sees irido-cyclitis in Horner's clinic as a direct result of the operation. He never examines an eye which has been operated upon within the first twenty-four hours. Having extracted a cataract one morning he removes the bandage the following morning for the first time, when all danger of disturbing the conjunctival flap is over. He displaces the secretion with a bit of salicine cotton, and wipes the lids with a dry pledget of muslin. His idea is that water may excite spasm of the upper lid, thereby interfering with the quiet of the parts below. It may be an idiosyncrasy, but practically it works well. These minutiae of personality are very different in different men. For instance, Arlt of Vienna, Pagenstecher of Wiesbaden, and Horner consult the comfort and whims of patients in after-treatment of cataract operations, while equally good operators, as Stellwag of Vienna, Wecker of Paris, and Schweigger, follow out a certain method with reference to the bandage, cleansing of wound, position of patient, etc., etc.

A word with regard to the conveniences at Zürich for eye-patients, and I will close this letter, already too long for a special subject. Two wards, one for each sex, with twenty-four beds, are devoted to the poorer classes in the canton hospital. No one is received from outside the canton except by special permission. The cost is trifling, and none are admitted free. Besides this, Professor Horner has a private hospital, by name Hottingerhof, where are

forty beds ; he is in charge of sixty-four beds in all. This private hospital of four stories is the type of Swiss neatness. There are two buildings, both of which are furnished with gas and water, parquet floors, and electric bells. Each one has a reception-room, where the consultation with patients is daily held. The first story is above ground, and none of the misfortunes of bad drainage occur, on account of the elevated position of the land and the sandy soil. Although the institution is not public, and is not devoted to the education of the students at the university, physicians and specialists are always invited to follow the daily clinic. It is a model of a hospital home, and I question if the majority of Swiss, French, German, and English patients I saw there are able to furnish their houses in better taste or with a view to more comfort. I do not wonder at the high per cent. of cures succeeding operations as compared with similar institutions in some parts of Germany. Personal habits of the two nations play an important rôle in the facility of management of such an institution.

Yours truly,

E. S. P.

ZURICH, July 31, 1877.

MESSRS. EDITORS, — A few weeks ago a young man came to my office with a dislocation backwards of the ulna and radius, the result of a fall in wrestling. In reducing it I adopted the method mentioned in a late number of a journal, and with a result so perfectly satisfactory that I am prompted to suggest the republication.

It being the right arm I clasped the patient's right hand with my left, with fingers interlocked, my elbow pressed into the angle of his arm and fore-arm, when upon flexing the arm the bones at once returned to place, and the man is now at his accustomed place in the shop.

S. I. SMALL, M. D.

SAGINAW, MICH., September 15, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 22, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	507	24.47	27.46
Philadelphia	850,856	256	15.65	22.88
Brooklyn	527,830	204	20.09	24.31
Chicago	420,000	129	15.95	20.41
Boston	363,940	153	21.86	23.39
Providence	103,000	40	20.19	18.34
Worcester	52,977	24	23.56	22.00
Lowell	53,678	24	23.25	22.21
Cambridge	51,572	19	19.16	20.54
Fall River	50,372	31	32.00	22.04
Lawrence	37,626	17	23.49	23.32
Lynn	34,524	16	24.09	21.37
Springfield	32,976	11	17.35	19.69
Salem	26,739	10	19.45	23.57

ERRATA. — Seventh line of second paragraph, page 340, "thirty-six grains" should read "eighty grains." Fifth line from bottom of page 359, "of a grain of bile" should read "of a grain of mercuric chloride."

A SPECIAL meeting of the Norfolk District Medical Society will be held in Bradley's Building, corner of Dudley and Warren streets, Roxbury, on Tuesday, October 9th, at eleven o'clock. The following papers will be read:—

Dr. Robert Amory. A Case of Malignant Pustule.

Dr. Orville S. Rogers. The Abuse of Medical Charity.

Dr. George D. Townshend. A Case of Amputation of the Hip-Joint.

Lunch at 1.45 P. M.

BOOKS AND PAMPHLETS RECEIVED. — Pathology and Treatment of Sprains. By Richard O. Cowling, A. M., M. D. Read before the Kentucky State Medical Society. 1877.

Public Health Reports and Papers. Vol. III. New York: Hurd and Houghton. 1877

The Ear: Its Anatomy, Physiology, and Diseases. By Charles H. Burnett, M. D. Philadelphia: Henry C. Lea. 1877.

Defects of Hearing and other Evils, the Result of Enlarged or Hypertrophied Tonsils. By W. A. Calhoun, M. D. (From Transactions of the Medical Association of Georgia.) Atlanta. 1877.

Forensic Medicine and Toxicology. By W. Bathurst Woodman, M. D., F. R. C. P., and Charles Meymott Tidy, M. B., F. C. S. Philadelphia: Lindsay and Blakiston. 1877. (From A. Williams & Co.)

Journal de Micrographie. No. 4. Août, 1877.

War Department. Surgeon General's Office. Circular Orders No. 3. August 20, 1877.

Transactions of the Medical Association of the State of Alabama. A State Board of Health. Thirtieth Session. 1877.

A Report on Lister's Antiseptic Wound-Treatment. By A. C. Girard, M. D., Captain and Assistant Surgeon United States Army. (From the War Department, Surgeon-General's Office.)

An Index of Diseases and their Treatment. By Thomas Hawkes Tanner, M. D., F. L. S. Second Edition. Revised by W. H. Broadbent, M. D. Philadelphia: Lindsay and Blakiston. 1877. (For sale by A. Williams & Co.)

Headaches: Their Causes and their Cure. By Henry G. Wright, M. D. Seventh Thousand. Philadelphia: Lindsay and Blakiston. 1877. (For sale by A. Williams & Co.)

The Hair in Health and Disease. By E. Wyndham Cottle, M. A. Oxon., F. R. C. S. Eng. Philadelphia: Lindsay and Blakiston. (For sale by A. Williams & Co.)

Transactions of the Kentucky State Medical Society. April, 1877.

Case of Peripheral Necrosis of the Humerus. By J. Ewing Mears, M. D. (Extracted from the Transactions of the College of Physicians of Philadelphia. Third Series. Vol. III.)

History of Ovariectomy in Maine. Read before the Maine Medical Association June 13, 1877. By George E. Brickett, M. D., of Augusta.

On the Various Forms of Pruritus Cutaneus and their Treatment. By R. W. Taylor, M. D. (Reprinted from the Archives of Clinical Surgery.)

Retarded Dilatation of the Os Uteri in Labor. By Albert H. Smith, M. D. Philadelphia.

Infants' Food. Issued by Theodore Metcalf & Co., Boston.

Solid Food in Typhoid Fever. By S. D. Turney, M. D. (From the Ohio Medical and Surgical Journal.)

Transactions of the Medical Association of Georgia. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, OCTOBER 11, 1877. — NO. 15.

A NEW ADHESIVE PLASTER ESPECIALLY ADAPTED TO THE REQUIREMENTS OF MODERN SURGERY.

BY HENRY A. MARTIN, M. D.

AMONG the numerous improvements which have lately, in rapid succession, illustrated the advance of surgery, none, it seems to me, has already been so fertile in practical results as that which the profession owes to an American "country doctor,"¹ the use of adhesive plaster as a means for extension.

In the treatment of fractures it affords an invaluable and faultless appliance in place of a host of contrivances which, however ingenious and complicated, were, judged by their effects, wofully defective, and ulcerated groins and ankles and sloughing heels have ceased to be *opprobria* of the surgeon. The treatment of diseased hip-joint and that of fractured clavicle, associated with the distinguished American names of Davis and Sayre, could not have been accomplished but for this simple and admirable invention.

Adhesive plaster has become a most important matter. The ordinary article is spread upon a fabric of an extremely flimsy texture, the apparent substance of which is mainly composed of "dressing," which dissolves upon the slightest application of moisture, and the plaster itself is made of ingredients so prone to rapid change and deterioration that, unless very freshly made, it is worthless. Although this is largely employed, it is for want of anything better. A superior quality of adhesive plaster is made by Maw and Sons, of London, and much

¹ The late venerable Dr. Josiah Crosby, of Manchester, N. H. The fact that more than one generation of practitioners in a corner of Pennsylvania employed plaster straps for extension in fractures of the leg and thigh, and that about one hundred years ago the eminent Benjamin Gooch, of Norwich, Eng., made similar use of plaster, does not invalidate Dr. Crosby's claim. He supposed that the invention was his own, and it was not till I informed him that others had to a certain extent preceded him that he had the slightest suspicion of the fact. To Dr. Crosby the profession owes the knowledge of this most important improvement. Before his papers in the *Philadelphia Journal* and his remarks to various medical associations the use of plaster straps for extension was confined to a limited circle of rural practitioners, and its only record in a forgotten tract and a little book on minor surgery. To the man who, like Jenner, labors and strives to give the profession and humanity the benefit of an invention or discovery is honor due, and not to him who either keeps his invention to himself or does nothing to make it known.

imported for surgical purposes. It is of the best possible quality of the "classic" emp. adh. spread on a close, strong cotton fabric called moleskin. This, although as good as "officinal" adhesive plaster can be made, and infinitely superior to that in ordinary use, is liable to deterioration, however carefully kept, from time, air, light, and heat. It also requires the careful and troublesome application of heat to render it adhesive, and when of a certain age it cannot, even by heating, be made available. Every surgeon is well aware how much trouble he experiences in heating his plaster straps so that they shall adhere equally in their whole length, and how difficult to attain that just mean of plaster, warm enough to stick and yet not so hot as to burn his patient's skin. We all know that if such plaster is not applied at once after being heated it cannot be applied without reheating, the consequence of which is that strapping a breast or adjusting plaster extension to a fractured thigh is very often a tedious process, consuming a great deal of plaster and patience, and leaving the surgeon's fingers and nails coated and stuffed with a deposit of lead plaster, by no means easy of removal. I doubt not that every one of my readers has been, more than once, seriously annoyed to find that all the plaster in his pocket case or office has become quite worthless; frequent and most troublesome renewal of supply will alone, and that imperfectly, afford protection from such annoyance.

Another defect of all varieties of the officinal spread adhesive plaster is that it is almost impossible at any temperature, quite so during summer, to prevent its becoming so adherent to the thin "tissue" paper which is laid over its surface as to be capable of separation only by a tedious washing off of the paper, a process which renders the plaster almost worthless. I need not here dwell further on the many defects of the familiar sticking-plaster, for nothing can be better known to the busy surgeon.

The plaster called "Liston's" and "isinglass," made by spreading a solution of albumen on silk, has, during the past thirty years, been used to a certain extent as a substitute for common adhesive plaster. When prepared as Liston directed, spread with a brush on good oiled Florence silk, it is an excellent article, and useful in a certain limited class of cases. As, however, it now exists "in commerce," spread on a most flimsy sort of silk gauze, it is of little value. The idea that its adherence is unaffected by the application of moisture is an utterly fallacious one; under certain circumstances it is very irritating to the skin, and, of course, however well prepared, is of no use whatever for the more important surgical needs. There is another sort of plaster, made both in England and this country, composed of a solution of gum caoutchouc with various gums and resins in naphtha, or some such solvent, spread on thin cloth by means of what is technically called a comb. This

“rubber plaster” possesses valuable qualities, but is found in practice — probably on account of the solvent it contains — to irritate the skin if applied to it for any considerable length of time. Probably, also, from the action of the solvent on its ingredients, it tends to deteriorate rapidly in quality, however carefully kept.

A plaster of great adhesiveness, and at the same time unirritating to the skin, even if long applied, spread on so strong and closely woven a fabric as to bear any possible necessary amount or continuance of traction, little or not at all liable to change from time or ordinary climatic variations in temperature, and instantly applicable, without heat, at all temperatures, has been hitherto a desideratum. No experienced practical surgeon can doubt that a plaster fully and fairly meeting all these requirements would be a most valuable addition to his *armamentarium*.

It is the hope and belief of the writer that he can now introduce precisely such an article to the notice of the profession.

Some eleven or twelve years since I ascertained that at the great rubber factory in Roxbury cloth was spread with a compound of India rubber with a small proportion of common rosin. This compound was effected, not by solution, but by the infinite kneading together of the ingredients between rollers at a certain degree of heat. The cloth was prepared for purposes quite apart from surgery, but, coming under my notice one day, I was struck with its fitness for all the uses, and especially for the more important modern uses, of adhesive plaster. I procured two or three yards, and afterwards, at various intervals, several further supplies of it. The very first case in which I used it was for wide strips to approximate the large incised wound of ovariectomy, and at the same time extending widely to support the abdominal walls. It answered these purposes admirably. I used it in fractures of the leg and arm to attach and fix splints to the limb, in many cases of incised wounds, and particularly those of the scalp and bearded parts of the face, and others in which muscular action tended continually to separate the sides from each other; also in one case of fractured thigh. In all the cases in which I employed it I found it to answer excellently, but it was so excessively adhesive that it was very difficult to handle, and I felt that it could not prove generally useful. I was, however, confident that if variations were made in the sort and proportion of ingredients it was extremely probable that valuable results might be attained. I always intended to pursue the investigation, but shortly after my attention was first called to this subject a great and long-continued pressure of business connected with my devotion to the subject of animal vaccination and its introduction, now fully accomplished, into this country prevented my attending to this and many other matters.

Somewhat more than one year since I commenced my experiments in this direction. It is needless to weary the reader with a narrative of

my failures, troubles, disappointments, and annoyances, all familiar enough to any one who has embarked in such an enterprise. If I had foreseen them all it is very doubtful if I should ever have undertaken the investigation. All that it is necessary to state here and now is that at last I did succeed in attaining the end I sought, in the production of a plaster which, so far as most strict and frequently repeated testing in every possible variety of case and application by myself and a very large number of surgeons to whom I have distributed it, seems exactly to meet all the requirements I have enumerated as desirable. I have sent supplies to many eminent surgeons, and from almost all — all from whom I have heard — have received the warmest possible expressions of approval.

The compound of which this plaster is made is of the very best Para rubber, Burgundy pitch, and balsam of tolu.¹ The latter ingredient, besides contributing an agreeable fragrance, has an important effect in rendering the plaster unirritating to the skin and improving it in other respects. These are the essential ingredients; they are combined and spread on a very strongly woven cloth (which has been thoroughly “shrunk” and deprived of every trace of “dressing” by treatment with the eminently antiseptic liq. zinci chloridi of Bennett²) by means of extremely expensive and exquisitely adjusted machinery, contrived for different and very important manufacturing purposes, but perfectly adapted to this new production. I need not give here a detail of cases in which my correspondents and myself have used the plaster; enough that it has been found to be all that can be desired in all cases, and of very especial value for purposes of extension in fractures, etc., in wounds of the scalp and bearded and hairy parts of the body, and in those cases in which muscular action and gravitation tend to a separation of the sides of wounds; for strapping for ulcers, the breast, and testicle; for attaching and fixing splints, and in treating fractured patella by Sanborn’s method.

¹ Very remarkable virtues are ascribed by a recent French writer to balsam of tolu as an application to wounds, ulcers, and contusions, and also as a lotion and injection in various inflamed and irritated conditions of the skin and mucous membranes. Its use in my plaster was on account of its peculiar sort of adhesiveness, and also with a view, through its very agreeable fragrance, of avoiding a resinous odor which might be objected to by sensitive patients. It is found to contribute very decidedly to the excellence of the plaster, giving it a peculiar adhesiveness, and rendering it of a pleasant odor: it is also found that, made with this balsam, plaster is much less irritating to the skin when long applied than that made without it. On account of these advantages it is and will be an ingredient notwithstanding its high price.

² This antiseptic treatment of the cloth is not merely or chiefly with a view to rendering it directly destructive of the much-dreaded bacteria, etc., but to remove entirely the dressing, composed of substances extremely prone to fermentation and decomposition, with which all “finished” cotton cloth is filled. It also contracts the cotton fibre, diminishing the width of the cloth one thirty-sixth, and in this way renders it closer and better. If my readers wish to know exactly what “dressing” is, let them soak a piece of the ordinary “spread” sticking-plaster in warm water for a few minutes, and then see how much is left of the cloth on which it is spread.

It has been tested in an atmosphere below zero and found perfectly and readily adhesive, while in one at 100° it has been not more so. Specimens made a year ago evince no signs of change or deterioration, and those of a similar product made more than ten years since retain adhesive and other qualities.

At some future time I may publish the commendations of very distinguished practitioners which I have received, but as I have not asked for formal permission to that end I do not feel at liberty to do so now.

I have transferred the entire commercial charge of this invention and manufacture to my old and valued friends Messrs. T. Metcalf & Co., of Boston, and I have requested them to present a specimen of the plaster to any physician who may apply, either personally or by letter, that a full examination and testing may be made inexpensively by all who desire. If any of my readers should avail themselves of this opportunity and use the plaster, I should be much obliged by their giving me their opinion of it if favorable, and still more, if, for good reason, it is unfavorable. I have conscientiously endeavored to test it fully before troubling the profession with this announcement, but defects may be revealed by time or to other observers, and I am extremely anxious to be made aware, and to make others aware, of such possible defects as soon as they may be discovered.



A CASE OF DIPHTHERIA; INVASION OF THE LARYNX; TRACHEOTOMY; RECOVERY.

BY A. M. TUPPER, M. D., ROCKPORT.

C. S., aged seven years and four months, was taken with diphtheria on May 12, 1877. His brother was just recovering from a mild attack of the same disease. On the 13th, when I first saw him, he was quite feverish, had a quick pulse, and was complaining of nausea and headache. His tonsils and the back part of the pharynx were patched with false membrane. He felt better on the 14th, but was content to lie down most of the time. The next day he was up playing about the room. It was impossible to keep him in bed, as he felt too well to be quiet there. He was about the same on the 16th, but a little hoarse. If anything, there was not as much false membrane to be seen in the throat. On the 17th the voice was hoarser and more whispering, but respiration was not at all embarrassed, and he was playing about the room apparently well, except that he was a little pale. The throat looked better.

He was about the same on the 18th, but could not speak above a whisper. At the morning visit he was not at all distressed for breath, and at four P. M. I counted the respiration as he lay asleep on a lounge

and found it about twenty, but his breathing was loud and snoring, as his mother said it had been ever since he was taken sick. At five p. m. I was sent for in haste, and found that he had awakened feeling very much distressed for breath, but was better before I reached him. His pulse was slightly hurried, and he was somewhat frightened, but the respiration apparently was not impeded. He was sent to bed, and the air of the room was charged with steam.

On the 19th the use of emetics was commenced, and carbolic acid and chlorate of potash were inhaled by means of Codman and Shurtleff's steam atomizer, as had been done for the two or three previous days. He grew steadily worse all day, the breathing becoming noisy, with occasional attacks of spasm of the glottis, for which chloral hydrate was given. Still the breathing did not seem much embarrassed between the spasms, and the respirations were not over twenty-four in a minute.

On the 20th, in the morning, he seemed a little better, and had rested tolerably well through the night, but the cough was still dry and the voice whispering. The nurses said that at times the cough was loose, but he raised nothing. About four p. m. I was sent for and found him much worse. He commenced growing worse about three p. m., and when I arrived at the house he was in a good deal of distress. The respirations were not very frequent, not over twenty-eight or thirty, but his breathing was very noisy, the cough low and dry; every muscle concerned in respiration was brought strongly into play, the soft parts between the ribs sinking in at every respiration; a deep sulcus formed around the base of the chest, and the lower part of the sternum and the epigastrium receded at every inspiration. We endeavored to make him vomit, but ipecac, alum, and sulphate of copper each failed in its turn. He was beginning to throw himself about the bed, and would put his hand to his throat as if to remove the obstruction. Under these circumstances I felt that the only hope lay in an operation. Accordingly at six p. m., with the kind and valuable assistance of Drs. Haskell and Manning, I performed tracheotomy. It took a long time to get the patient under the influence of ether, and he had almost ceased breathing before I got the trachea open. Artificial respiration had to be carried on through the tube, and we managed to pour a little brandy down the throat. The pulse became very weak, and at one time we thought he was gone; however, he soon revived, the pulse improving and the respiration becoming regular and easy. When the inner canula was in place he did not breathe so well, so I left it out for a few hours; it excited violent cough the instant it was introduced. I was anxious to be able to use the inner tube, for I knew that there would be great difficulty in keeping a single one clean. About eleven p. m., I got it in and was able to leave it. He fell asleep soon

after the operation, and continued comfortable all night. The breathing at times was harsh and noisy, but atomizing lime-water through the tube invariably improved it. The canula was smeared on the inside with glycerine, the air of the room kept charged with steam from water heated over a kerosene stove, and a woolen muffler was wrapped round the throat. The temperature of the room was kept as near 75° F. as possible.

May 21st, eight A. M. Pulse 66; respiration 24. Four P. M. Pulse 112; respiration 24. Has had a very comfortable day. The inner tube has required cleaning seven times since morning, and the atomizer has been used quite frequently, not at regular times, but whenever the breathing has become noisy and the cough troublesome.

May 22d, 10.30 A. M. Pulse 108; respiration 22. The inner canula has required cleansing four times since midnight. 6.30. P. M. The patient has had a pretty sick day, has coughed a good deal in spite of cleaning the tube frequently and the almost constant use of the atomizer. The inner tube was removed for an hour at noon, and at three P. M. was left out as he could not breathe well with it in. The difficulty did not seem to be on account of the size of the tube, but from mucus collected at the end of it which he could not cough out.

May 23d, one A. M. The patient has been coughing hard almost all night, and is very tired. The atomizer has been used constantly. 3.30 A. M. A bad attack of dyspnœa came on, necessitating the removal of the tube altogether. This was followed by violent cough and the expectoration of a quantity of viscid, muco-purulent matter, which was followed immediately by great relief and quiet breathing. Both tubes were thoroughly cleaned and reintroduced, and he then breathed well through them, with much less cough than in the first part of the night. 11.30 A. M. Pulse 116; respiration 24. Sleeping quietly and breathing easily. Two P. M. Pulse 116; respiration 26. Tube has been cleaned twice only since its introduction. Six P. M. At half past four the patient had a bad attack of coughing and dyspnœa, and vomited some milk and egg he had taken an hour before. The tube was removed entirely, when he ejected two pieces of false membrane, one being a complete tube three eighths of an inch in diameter, and one and one eighth inches in its longest part and one inch in its shortest; the other piece was irregular, about as broad as the little-finger nail and a little longer. Breathing at once became easy, and the tube was reintroduced. Eight P. M. Does not breathe very well with the inner tube in, so it was taken out. 10.30 P. M. Breathes hard and coughs a good deal, but gets nothing up; so suspecting the presence of false membrane too large to escape through the tube, or a collection of mucus at the end of it, I took the tube out again, but nothing was ejected, and the breathing was not relieved.

May 24th, 7.30 A. M. Has coughed a good deal through the night, and breathes hard. Replaced the tube, which seems to make him breathe easier, and he does not cough as much. 8.30 A. M. Pulse 100; respiration 24. 11.30 A. M. A violent attack of dyspnœa and cough came on, necessitating the complete removal of the tube, which was followed by the ejection through the tracheal opening of a large tubular piece of membrane one and three eighths inches in its shortest and two inches in its longest measure, and half an inch in diameter. Relief followed immediately, and the tube was replaced. Five P. M. Has been very quiet and has slept most of the time since half past one. An inflammatory blush has appeared across the top of the chest, and some false membrane is to be seen on the wound. 8.30 P. M. Has been very fractious for the last hour; wants to "get into a better bed." Is breathing quietly, and his pulse has fallen to 92. 11.15 P. M. Sleeping well, and breathing almost noiselessly. Pulse 84; respiration 24. 12.40 P. M. Had a fit of coughing and bad breathing, but after ejecting a small piece of membrane through the tube became easy and breathed as well as he did the first part of the night. Tube cleaned six times to-day.

May 25th, 8.30 A. M. Pulse 80; respiration 24. Has slept well all night. 3.30 P. M. Pulse 92; respiration 20. Liquids come through the tube when he drinks. Painted the erysipelas and the wound with tincture of iodine. Six P. M. The bowels were moved by enema for the first time for several days, and it has tired him a good deal. Pulse 96; respiration 24. Tube cleaned four times to-day.

May 26th, 6.15 A. M. Rested well all night. Pulse 92; respiration 24. Put a new compress under the collar of the tube and painted the erysipelas and wound with tincture of iodine. The erysipelas looks better and the tongue is cleaning. Seven P. M. Cantered the wound with solid nitrate of silver and painted the chest with tincture of iodine. Has had a very comfortable day. This is the first day he has had much difficulty in swallowing liquids, but he swallows semi-solid food quite well, and has some appetite. 9.30 P. M. Pulse 80; respiration 20. Tube has been cleaned five times to-day.

May 27th, 7.30 A. M. Rested well all night. Erysipelas looks better and there is less membrane on wound, which I again cauterized. The skin is chafed under the collar of the tube in spite of the compresses. Nine P. M. Pulse 80; respiration 20. Has been sitting up in bed playing with his toys to-day. There is considerable bloody matter in what he raises now. Has taken food with a good relish. Tube cleaned four times.

May 28th, nine A. M. Pulse 80; respiration easy and noiseless. Removed the tube and put a rubber compress under the collar. Wound looks better; still some false membrane to be seen on it, but pretty well

shriveled up. Erysipelas almost well. 9.15 P. M. Asleep. Pulse 80 ; respiration 20. Tube cleaned four times to-day.

May 29th, nine A. M. Pulse 84 ; respiration 16. Bowels open by enema. P. M. Has been sitting up in bed playing a good deal of the time to-day. Is able to swallow liquids better ; takes four or five swallows before it comes out through the tube. On closing the tube with the finger he can breathe through the larynx, and can speak in a hoarse tone, so that he makes himself understood very well. Tube cleaned six times.

May 30th, nine A. M. Pulse 88 ; respiration 20. Nicely this morning. P. M. Can breathe better to-day when the tube is closed than he did yesterday, and can speak louder.

May 31st. Up and dressed to-day. Still complains when we close the tube entirely.

June 1st. Still improving. Took the tube out completely for two hours to-day, and on closing the wound with the fingers found he could breathe well through the larynx. Bowels open spontaneously.

June 2d, nine A. M. Removed the tube and closed the wound with sticking-plaster. P. M. Has coughed up some phlegm through the mouth, and has breathed easily all day. Replaced tube as a precautionary measure.

June 3d. Removed tube to-day, and closed the wound with sticking-plaster. From this date the patient went on as well as could be wished, the wound closing rapidly and the voice becoming clearer every day.

On the 15th of June I ceased my attendance, the wound being entirely healed, and he as well as ever, except for hoarseness, which grows less every day.

Remarks. When first called to this case I gave large and frequent doses of hyposulphite of soda, and touched the patches of false membrane with one part of carbolic acid to three of glycerine. When the croupy symptoms supervened chlorate of potash and carbolic acid were inhaled by means of the steam atomizer. The patient also inhaled the vapor from slaking lime frequently. After the operation he took no medicine except a little carbonate of ammonia and brandy in his milk, and this was discontinued when the difficulty in swallowing liquids commenced. His diet before and after the operation, until the difficulty in swallowing fluids began, was milk and eggs beaten together ; afterwards he had milk toast, cake soaked in milk, cooked eggs, beefsteak, and mutton-chop, all of which he swallowed pretty easily.

I stayed with my patient almost constantly for the first four or five days, and I have no doubt that his life was saved by so doing, for on those occasions on which I had to remove the tube and the removal was followed by the ejection of large pieces of false membrane, if I, or some

one who understood the case, had not been present he would certainly have strangled. Of course it is not always practicable to stay as I did, but I think we should never undertake such a case unless we can arrange to have help from some of our professional neighbors or a well-informed medical student, as is advised by Meigs and Pepper in their well-known work on diseases of children. I would like to add what the mother said to me two or three days after the operation. It was: "If C. *don't* get well, I should have the operation performed again if ever occasion required, on account of the relief it has given him."

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.¹

BY F. I. KNIGHT, M. D.

Physiology and Pathology of Singing. — Dr. Michael² has repeated the experiments which Dr. Jelenffy made upon himself with regard to the action of the crico-thyroid muscle, and confirms his results, which, it will be remembered, were as follows: If a note be sustained and pressure be made upon the under edge of the cricoid cartilage, upon its anterior surface, or upon its lateral surface, the note becomes higher in pitch; if pressure be made on the upper surface of the cricoid or on Adam's apple, it becomes lower.

Dr. Michael's explanation of the phenomenon differs from that of Dr. Jelenffy. He says that in the production of high notes or in bending the head backward the larynx is stretched upward by the hyo-thyroid muscles, and is tilted away from the vertebral column. By pressure on the cricoid cartilage the two cartilages are approximated like the two halves of a moderately stretched cord when a weight is hung on the middle of it. This approximation resembles the action of the crico-thyroid muscle, as thereby the anterior surfaces of the cartilages are brought near, whilst the insertions of the vocal cords are removed farther from one another. Pressure on Adam's apple cannot bend in the larynx, as it acts in a right line against the superior cornua. These (the superior cornua) separate toward either side, and the angle which the two plates of the thyroid make with each other is enlarged, the distance between the insertions of the vocal cords is shortened, and hence the vocal cords are relaxed. Pressure on the cricoid cartilage works in like manner if the head is bent forward and downward, and on the production of low notes. In such cases this cartilage lies close to the spinal column, or at least to the œsophagus. Pressure upon it, as it is

¹ Concluded from page 390.

² Berliner klin. Wochen. 36 and 37, 1876. Monatschrift für Ohrenheilkunde, etc., iii., 1877.

yielding, will diminish its sagittal diameter, and as the posterior surface of the plate runs in an oblique line downwards and forwards will so act that the whole cartilage will move about an axis drawn through the point of the cartilage situated farthest back and the upper articular processes. In this manner these processes and the superjacent arytenoid cartilages are pushed forwards, and whilst the thyroid and cricoid cartilages are somewhat separated in front the vocal cords are relaxed.

(a.) If a note of the middle or falsetto register be sustained whilst pressure is made on the cricoid cartilage, the pitch of the note will be raised, and lowered again on relaxation of the pressure. If a low note be sounded, and the same pressure be made, it becomes still lower. If the highest possible falsetto note be struck, and pressure be made on the cricoid cartilage, from two to five semitones higher can then be reached.

(b.) By pressure on Adam's apple, notes of the middle and chest register are lowered; falsetto notes cannot be produced during such pressure.

Dr. Michael also reviews at length the mode of action of the various laryngeal muscles in tension of the vocal cords, especially the action of the crico-thyroid, which, in his opinion, is not only a tensor of the vocal cords, but under some circumstances a closer of the same by stretching the concave edges of the vocal cords, and so closing up the elliptical opening remaining after the vocal processes have been rotated into apposition. On the other hand, in insufficient fixation of the arytenoid cartilages, it may be an opener of the whole glottis, if it acts by traction on the vocal process forwards and outwards, and so imitates the action of the posterior crico-arytenoid.

Large Fibroma of the Larynx causing Epilepsy; Cure.—Dr. Jules Sommerbrodt¹ reports the following case. In July, 1874, a man fifty-four years old came to Dr. Sommerbrodt with the statement that he had been hoarse since 1867 in consequence of having been wet through at a fire. On laryngoscopic examination a fibroma of more than a centimetre in length and more than half a centimetre in breadth was found on the left vocal cord. The patient declined to have any operation done at this time. In a short time, however, the respiration was noticeably impeded, and in the winter there was decided dyspnoea. In February, 1875, clonic spasms, with loss of consciousness, foaming at the mouth, and wounding of the tongue set in. At first these came on at intervals of several weeks, preferably in the night. At the end of March there remained a partial paralysis of the left arm and leg and of the facial nerve. The waters of Marienbad, bromide of potash, etc., were tried in vain. At length it occurred to the family physician that the epileptic attacks possibly depended on the obstruction to the respiration. Therefore the patient now concluded to have the tumor, which

¹ Berl. klin. Woch., 39, 1876. Monatschrift für Ohrenheilkunde, etc., ii., 1877.

had increased considerably in size, removed. Sommerbrodt cut the growth from the vocal cord with a probe-pointed, curved knife, and the patient ejected it at once. There was very little hæmorrhage. A small piece of the tumor which remained at the anterior part of the cord was removed afterwards with forceps. The tumor was a hard fibroma 1.5 cm. long, 0.6 cm. broad, and 0.9 cm. high. At the end of five months after the operation there had been no epileptic attack, and on laryngoscopic examination no trace of the growth could be found.

A Tumor in the Pharynx which proved to be an Accessory Lobe of the Thyroid Gland. — Schnitzler¹ gives the details of a most interesting and unique case.

The patient, a man fifty-four years old, presented himself at Schnitzler's clinic at the beginning of July, 1875, stating that two years before, after crying for a long time on a cold, windy day at the grave of his child, he had suddenly become hoarse, indeed almost aphonic; aphonia had since continued; gradually, dyspnœa had set in; now and then there had been some dysphagia, but it had never been very great.

On examination stridulous respiration was audible at a distance, and the patient evidently made a great effort to breathe. With inspiration and expiration there was considerable movement of the larynx, about which externally nothing abnormal was noticeable; nothing abnormal was found in the chest except the stridulous respiration propagated from the throat. On depressing the tongue the upper half of a tumor, about the size of a hen's egg, could be seen, deep in the throat, at the right posterior wall of the pharynx. It appeared to be covered with a thin, stretched, reddened mucous membrane. The finger with considerable effort could reach the middle of the tumor, which felt somewhat elastic. The lower part of it could not be reached. It was movable to a slight extent laterally and downward. It was difficult to decide on the question of fluctuation. Laryngoscopic examination showed the larynx to be pushed obliquely forward and to the left, but its mucous membrane and the vocal cords to be normal in appearance except a loss of lustre. The glottis chink presented itself as a narrow elliptical opening, remaining about the same on phonation and respiration; on deep inspiration it was hardly more than three millimetres wide in the middle of the ligamentous portion, whilst the cartilaginous portion remained nearly immovable.

The right arytenoid cartilage lay about six millimetres farther forward and about three millimetres lower than the left. On deep inspiration there was a little convulsive movement of the left arytenoid cartilage, but no movement of the right.

Various suggestions as to the nature of the tumor were made by different individuals who saw it. Retro-pharyngeal abscess and lymph-

¹ Wiener Klinik, January, 1877.

adenoma were mentioned. Neudörfer thought it a sarcoma, Ultzmann a cavernous tumor of the posterior wall of the pharynx, whilst Mackenzie, of London, who happened to see it, declared quite positively that it was a cyst. There were further puzzling questions as to the relation of the changes in the larynx to this tumor, whether they were partly or wholly dependent on it, and if so in what manner they were produced.

In the uncertainty of the diagnosis, and inasmuch as there was no urgent necessity for operation on the tumor, Schnitzler tried to relieve the stenosis of the glottis by the introduction of bougies. This was continued for months without any permanent result, but with temporary relief to respiration immediately after their introduction.

The tumor showed no important change, although it appeared at times somewhat larger and at times somewhat smaller again, and also on one occasion more tense and on another softer and looser.

April 20, 1876. Not having seen the patient for some time Schnitzler was called to his home, and found him in bed with wan features, a small, rapid, hardly perceptible pulse, and the temperature a little elevated; the respiration was much accelerated and superficial, and less marked in the right half of the chest than in the left.

The patient said that for several days he had felt extremely weak; yet it was not difficulty of breathing which troubled him. The tumor in the pharynx seemed rather smaller and to lie somewhat deeper.

Again, the possibility of its being a retro-pharyngeal abscess and the propriety of operation suggested themselves, but Hofmokl, who was called in consultation, declared any operation useless.

Two days later the patient died with symptoms of general weakness, but not of asphyxia. Dr. Chiari made the autopsy. As it was made at the patient's dwelling, after the body was laid out, many details, especially in reference to the relations of the vagus and recurrent nerves, could not be investigated with proper exactness, but the report is very interesting.

The neck was short and thick, with no perceptible want of symmetry between the two sides externally. The thyroid gland, as seen from before, was a little enlarged. On dissection, the right lobe was found to possess an appendix of about the size and shape of a hen's egg, sharply separated from the rest of the tissue of the thyroid gland by a fibrous sheath, and lying between the vertebral column on one side and the pharynx and œsophagus on the other. From this situation, however, it could be easily displaced. Dissection of the laryngeal muscles showed that the transverse and oblique arytenoid muscles were much less developed on the right side than on the left, and that the right posterior crico-arytenoid muscle had a concave posterior surface, as it was sunk into a groove in the posterior surface and upper edge of the right half

of the cricoid cartilage. This cartilage was for the most part either calcified or ossified. The right arytenoid cartilage was ossified. There was ankylosis of the right crico-arytenoid articulation, and partial ankylosis of the left. There was fatty degeneration of the heart but none of the laryngeal muscles, hyperæmia and œdema of the lungs, and catarrhal ulceration of the mucous membrane of the larynx.

In regard to the possibility of relief to the patient, if a correct diagnosis had been made, Schnitzler says that it might perhaps have been given in the beginning of the affection, but not when he first saw him, for the danger to the patient was from the stenosis, which was due to the ankylosis of the crico-arytenoid articulation, which latter, though caused primarily by pressure of the tumor, would not have been relieved by its removal. He does not consider that removal through the mouth would have been necessarily impossible. Schnitzler insists, in several places, that inasmuch as the patient died not by asphyxia but from general weakness, perhaps in consequence of fatty degeneration of the heart, that tracheotomy would have done no good.

[We cannot but feel that the patient's life would have been prolonged by giving him plenty of air through an opening in the trachea. — REP.]



PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

NOVEMBER 11, 1876. *A Case of Superinvolution of the Uterus.* — DR. SINCLAIR read the case.

Mrs. —, aged twenty-nine, married seven years, mother of three children, eldest five years, the youngest eighteen months old. No catamenia since birth of last child, which she was unable to nurse. She seemed to do well for two or three weeks subsequent to her confinement. Then there developed certain vague symptoms about the abdomen, for which she was treated locally and constitutionally by her medical attendant. About nine months later she became very nervous and wakeful, with loss of flesh and appetite; sensations of fullness in the head; apprehensions that she would certainly lose her reason; loss of mental application; easily fatigued; in other words a condition of things existed as in some cases of melancholia. The catamenia were irregular at times previous to marriage, but sufficient in quantity. There never was leucorrhœa; mammæ diminished; spanæmic.

Physical examination of the pelvic organs revealed a remarkable atrophy of the uterus. The cervix was not thicker than the end of the little finger, and the os so small that it admitted only the finest probe. The uterus measured less than two and one half inches in length, felt very light and thin, could be moved on the probe in any direction with the greatest ease, and lay unusually low in the vagina. Examination gave no pain. There appeared nothing

unusual otherwise about the pelvic organs except a paleness of the mucous membrane, which obtained generally.

It was thought best to treat this patient constitutionally and defer local remedies until some future time. Pursuing this plan she in a few weeks regained strength of body and mind. Her appetite and sleep returned and she gained some flesh. The mental depression had nearly disappeared.

A year later she consulted me again about her amenorrhœa which had now lasted three years. Her general appearance was that of perfect health, and the only discomfort complained of was the sensation of "flushes of heat" passing over her from time to time, at intervals of a few weeks. The pelvic organs were in the same atrophied condition as when examined eighteen months before. The state of the mammæ was not noted. The sexual appetite was not entirely wanting.

In view of the good condition of her general health on the one hand, and the uncertainty of the result of an attempt by mechanical means to restore the pelvic organs to their former size and activity on the other, she was advised "to let well enough alone." It was stated as further reasons for this advice that the condition of the ovaries was unknown to me, though probably wasted like the uterus, and that the treatment itself was not wholly free from danger. It is now three years since I saw this patient, but her husband reported to me a short time ago that she remained the same, and to all appearance perfectly well.

Superinvolution or excess of involution as compared with subinvolution or arrest of involution is a rare affection of the uterus. To Simpson is due the merit of specially directing attention to both these affections of the womb after confinement, in a paper read before the Obstetrical Society of Edinburgh, in February, 1852.¹ Scanzoni and Courty have also contributed some excellent observations to the scanty literature of superinvolution of the uterus, concerning the pathology of which, as well as that of subinvolution, much remains to be known.

DR. CHADWICK said he had seen a similar case, in which the uterus was not over two inches in length. The patient had had but one child. There was amenorrhœa, as a result of which, presumably from the blood not having been lost, she had grown very stout. There are other instances in which women who without having undergone labor have suddenly ceased to menstruate and have grown stout in consequence, without the occurrence of pain, anæmia, or other illness. In such cases it is supposable either that the uterine mucous membrane for some reason has ceased to pass through its monthly phases, or that the periodic determination of blood to the organ has been arrested. Dr. Chadwick said he would take exception to Dr. Sinclair's statement regarding the complicity of the ovaries with the disease of the uterus. As the ovaries are not known to enlarge during pregnancy it was not likely that they would undergo a retrograde metamorphosis in childbed.

DR. SINCLAIR said that he believed the cause of the disorder was a lack of force in the nutrition, with consequent enervation, whereby the fatty degener-

¹ Morbid Deficiency and Morbid Excess in the Involution of the Uterus after Delivery. Vide Gynæcological Works.

ation of the uterine fibres was carried beyond the normal point of arrest, with a failure in the renewal of muscular fibres from their nuclei. In the case reported the woman had loss of flesh and nervous prostration. There were still periodical symptoms, such as heat flushes. In the treatment he would employ the stem pessary, galvanism, electricity. By these means certain English and French gynecologists had succeeded in increasing the size of the uterus.

DR. BIXBY gave an account of a patient of that kind in whom the menstruation had been for years vicariously by the nose. She began to menstruate at the age of fourteen, and was seen by Dr. Bixby when she was twenty-five years old. The uterine cavity was then one inch in length. Electricity and the galvanic pessary were used, and at the end of a year the uterus became larger, the vicarious menstruation ceased, and the normal uterine flow became permanently established. Although married she has never been pregnant. Dr. Bixby instanced other cases among his patients, one of them a girl of eighteen, in whom the galvanic pessary induced menstruation which had never previously appeared.

Closure of the Os Uteri in Consequence of Cauterization. — DR. CHADWICK read the case.

September 18. Mrs. A. L., thirty-two years of age, born in New York, of Italian parentage, had been married fifteen years, during which time she had had eight children and two miscarriages. The last child was born three years ago. For the past eight years she has been subject to almost incessant back-ache and to the most acute spasmodic abdominal pains. Menstruation has been scant, and, what is curious, there has been less pain during the menstrual than during the inter-menstrual periods. Bowels are regular, but there is much pain during defecation. There is profuse leucorrhœa.

The patient has been treated by very many physicians without obtaining relief. Two years ago she made a trip to Italy to consult the Italian doctors, with even worse result. She was then repeatedly cauterized for "ulceration," and was not relieved.

Examination reveals nothing per abdomen. The vagina is full, flabby, and bulging through the very patulous entrance. The uterus is somewhat retroverted, but not enough to bring the fundus beneath the sacral promontory. It is of normal density, size, shape, and in normal position. The lips of the os uteri are felt to be deeply fissured on either side, and much everted.

Through the speculum I was amazed to see that the lips, though widely everted, were united throughout their whole apparent breadth by firm cicatricial tissues. At either side of the cicatricial band, near the vaginal insertion, was a minute perforation that admitted a fine wire to the depth of three eighths and one half an inch respectively, but no further. As the woman had menstruated with regularity though scantily, I knew that there must be a communication with the uterine cavity. Accordingly I bade her return as soon as the next menstrual flow had established itself.

On October 2d a small drop of dark blood could be seen oozing from the aperture on the left side of the cervix. A fine probe passed abruptly to the right, behind the cicatricial bands. I cut down upon this with a bistoury, and subse-

quently introduced it by a very tortuous canal into the cavity of the organ. A probe-pointed knife was passed up the cervical canal until the latter was restored to its natural shape and more than natural calibre. There was but little hæmorrhage and scarcely any pain during the operation.

A hard-rubber intra-uterine stem was inserted, and the patient told to keep her bed for three days.

She was seen on October 6th and 11th; on the last occasion the stem was removed, as the denuded surfaces had healed over except immediately around the stem. I greatly feared that cicatrization at this point would again close the canal. On the 18th, however, it still admitted a sound freely. The eversion had been somewhat diminished by the drawing together of the everted lips at the sides after having healed.

November 6th. The last menstrual flow was of better color and more profuse. The sound passes freely to the fundus. The backache and abdominal pains are quite as painful as formerly. The cause of these I have not yet elucidated, having devoted myself to repairing the damage done by one of my predecessors.

I bring forward this case as an illustration of the popular ignorance about erosions of the os and its untoward consequences. The subject has for a long time been perfectly understood by specialists, but has not been sufficiently impressed upon the general practitioner. A paper published in the JOURNAL in March last by Dr. C. E. Wing described very forcibly and clearly the eroded appearance of the cervical mucous membrane when it has been exposed — owing to laceration and eversion of the lips — to friction against the vagina. The impression conveyed by this paper (which the author tells me was unintentional), that it is useless to treat these lesions otherwise than by operation, I would protest against, for I have found that, in the vast majority of cases, the tender mucous membrane of the cervix may be toughened by the application of mild astringents so as to bear the exposure to friction with impunity. The treatment may, however, often have to be continued for many months. In extreme cases an operation is certainly advisable.

Pelvic Peritonitis. — Dr. H. CURTIS reported the case.

L. B., thirty-seven years old, a widow, entered the City Hospital April 8, 1876. Since birth of child, many years ago, she has had uterine trouble; lately she has suffered much pain in uterine region, and for a few weeks has had a profuse discharge from vagina. Catamenia have been regular till two months ago. Since then have appeared every two weeks, scanty and painful, lasting three days; micturition difficult; constipation and frequent vomiting. Abdomen full and very tender, preventing deep pressure; cervix short and high up; os ragged; uterus enlarged, tender, and fixed. Posterior cul-de-sac filled with a firm, resisting mass. Temperature 99.6°. Pulse 104. Hyoscynamus and camphor, one grain each, were given three times a day; a vaginal suppository of iodide of lead and belladonna used night and morning. Severe pain in the right iliac region was relieved by leeches, and morphia subcutaneously.

April 15th. Vomiting continues. Complains of pain, and lies constantly on back. Constipation is obstinate. The vagina is encroached upon by the

mass in the posterior cul-de-sac, which now fills the lateral cul-de-sacs and passes down behind the posterior wall of vagina. This is firm, without fluctuation or pulsation, is very tender, and carries the uterus well forward against the pubes.

April 24th. Distention and tenderness of abdomen much lessened. The mass distending vagina and rectum is less tender, and softer.

April 28th. Uterus still fixed, but much less tender. Cul-de-sacs and posterior wall of vagina still encroached upon by the gradually softening and diminishing mass.

May 4th. L. B. now in service of Dr. Doe. The cervix has fallen back from pubes; tenderness much less. Posterior wall slightly encroached on by a somewhat spongy mass. Abundant discharge from os, with loss of tissue on right side of cervix. Hot douche night and morning.

May 13th. Catamenia appeared last night, were scanty, and ceased this morning.

May 17th. Os found in normal position. The only tenderness is on pressure in the posterior cul-de-sac. No marked induration perceptible. Pressure on right hypogastrium slightly imparted to os. Sound passes two and three fourths inches in a right anterior direction. Pulse 80. Temperature 98.4°.

June 1st. Discharged, relieved.

DR. SINCLAIR, in answer to a question, said that ten weeks was an average duration of cases of pelvic peritonitis. In a patient of his who miscarried last March, pelvic inflammation ensued, by which the uterus became firmly fixed in the pelvis and thrown somewhat forward. The case has gone on with gradual absorption of the effusion to the present time, but it will still take months for a complete recovery.

Case of Twin Pregnancy; first a Foot and second a Shoulder Presentation.

— DR. RICHARDSON said that he had recently seen in consultation a case of twins, in which the first child presented with a foot and was delivered by traction, while the second presented with the left shoulder and was delivered by internal version. When first called to see the case, and before making a vaginal examination, he had been led to think that he was about to deal with a case of twins in which the shoulder of the first presented; and he asked the members of the society as to what would be the best treatment in the following hypothetical case: a primipara, in labor five or six hours; the os two thirds dilated; the membranes ruptured; the pains frequent and of good character; a twin pregnancy, the first child presenting with the shoulder, the arm well down in the vagina. He stated that it seemed to him that, under the circumstances, internal version would be contraindicated owing to the presence of a second child. It was a question whether, if the position could not be altered by the postural method of version, embryotomy was not justifiable.

(*To be concluded.*).

MEDICAL REFORM ON THE RAMPAGE.

REFORM of medical education is the hobby of the day, and it certainly is not allowed to grow fat from want of exercise ; besides its legitimate work it is made to play the part of the trained mule of the circus, which, after permitting the unwary rustic to mount, usually throws him when he begins to exult in his equestrian graces, to the great amusement of the spectators. As instances of this exhibition we may mention the course of the authors of two recent essays on this subject, Dr. Hunt¹ and Professor Wilder.² It is fatiguing to follow the erratic race which the hobby carries Dr. Hunt. It canters easily through prairies of the history of medicine, takes the Darwinian theory, and "mountain upon mountain of fact" supporting it in its stride, slips through a gap of the hedge of homœopathy, but becomes restive as it approaches Boston, shies as it passes Harvard, snorts at the sign of the Boston Medical and Surgical Journal, rushes blindly at the Suffolk District Medical Society, barely clears it, and falls into the swamp of other societies, from which it emerges lame and exhausted minus the rider. As we retrace the steps of the wayward animal we find its course marked by ruins. Once or twice the rider has ridden boldly at windmills, to his own misfortune, but not unfrequently he has torn down a deluding sign-board and shattered a hollow idol with a good aim and a true blow. Still he has run a muck, like a Malay, attacking whom-ever he met, rather than splintered a lance against a single antagonist. There is a little of everything in the fifty pages of the book, but the following passage includes nearly, if indeed not quite all, that is suggested as a means of improving medical education :—

"Supposing that, earnest for medical reform, our schools should arrange a series of lectures upon medical history for their students, in which the evolution of medical doctrines should be carefully and critically described ; that practical courses should be established in the specialties and also in embryology as a basis of histological study ; that the relation of the philosophy of medical history to the work of original research were carefully pointed out ; that it should be demonstrated to the students that culture in the former would enable them to appreciate more exactly the lines of advance in the latter. The arranging of such a plan would be merely calling in play the reasoning powers with which we are endowed, and endeavoring, by their aid, to open a shorter road to the goal than the present empirical one which is mostly imitative."

Overlooking the insinuation that none of our schools are in earnest for medical reform, let us see whether these suggestions, the result of fifty pages, can be made available. Practical courses in the specialties are already established ; they are not made equally prominent with the leading branches, but any student may avail himself of them if he will. Surely there is enough to

¹ Some General Ideas concerning Medical Reform. By David Hunt, M. D.

² Should Comparative Anatomy be included in a Medical Course? By Burt G. Wilder, M. D. New York Medical Journal. October, 1877. The introductory lecture, last winter, at the Medical School of Maine.

be taught that is practical without devoting time to the blunders of Galen and the quackery of Paracelsus. If any one is interested in such matters, let him study them in the leisure hours of his early years of practice. To make embryology the basis of histology is certainly a good idea in the abstract, but how many teachers and how much time will it not take to make it bear practical fruit? Our schools should produce physicians not philosophers.

Professor Wilder has a firmer seat and keeps the hobby more under control; at first, indeed, we are inclined to think that the latter has got the bit in his teeth as he dashes away among the varied forms of animal life, stopping merely for a moment to lash out at the dissecting-room, but just as we fear he is getting absolutely unmanageable he sees before him Dr. Holmes' reflections on John Hunter grumbling that he must leave the dissection of a tiger to earn a guinea, and the rider takes advantage of the pause to turn him and guides him back as docile as a lamb. Professor Wilder divides his subject into four heads: What is comparative anatomy? What are its advantages to the medical student? To what extent should it be pursued? and When should it be done? We may skip the first question and begin with the alleged advantages, which are that it is a desirable element of general culture, which we grant; that it serves as a means of mental training, which we grant also, merely remarking that we doubt if it has the advantages over other means that its advocates claim for it; that it leads toward medical science, and that the same methods are employed in the study of disease; that some of the lower forms are more easily examined than the human body, and form a fitting preparation to the study of the latter. It really looks to us as if the hobby had got the upper hand when we read the following passages:—

“The contrast between the lower animals and ourselves renders more apparent the advantages of the human form.” No doubt man is better fitted to live in a city than a shark, but on the other hand a shark is better fitted to live in the sea. “The similarity of our organs and functions to those of animals should teach us consideration and humanity for those which serve us; and, whatever may be the case with those who, brutal by nature, and rendered more so by the horrors of the ordinary dissecting-room, dignify under the name of science unnecessary and unproductive tortures, I believe that, as a class, none are more kind and humane than those whose occupation requires them to occasionally take the life of animals.”

Does the dissecting room brutalize? We never thought so, but if it does we can only say that we should like to be treated by a thoroughly brutalized surgeon.

“The essential identity of the mode of development and the plan of structure of the human body with those of other vertebrates, and the probability that the highest has been gradually evolved from the lowest, should both encourage us to hope for yet further development, mental and physical, in time to come, and fill us with humble adoration of the Power which could, from such unlikely beginnings, create a habitation for the immortal soul of man.”

This sounds very fine, but we are considering the study of medicine and not of theology; the latter is out of our line. Perhaps the Rev. Joseph Cook will enter his hobby against Professor Wilder's, to determine this question.

The suggestion that the student should learn to dissect on lower animals and should obtain from them his general ideas of the nature of the viscera, muscles, joints, etc., is an excellent one, but it will apply only to generalities. The shoulder and hip joints which the surgeon is to treat are those of man, and they can be studied on man only. We must do Dr. Wilder the justice to say that he recognizes this fact and also that he answers the final question, When is comparative anatomy to be studied? by saying that it should be preliminary to the medical course. We would not quarrel with this were it not that, as he himself says, "life is so short and art is so very long" that we would give time but for a mere glance at comparative anatomy and put all available time into the study of the human body. Call it an anatomical monster if you will; it is none the less the monster that we are to treat in disease. There is much sense in Dr. Wilder's address, but it seems to us as if he gave undue prominence to the scientific study of the principles of anatomy over the narrow, technical knowledge of the human body. The human brain is indeed well nigh incomprehensible to the student, but if instead of devoting days and weeks to the study of the brain in the lower forms the instructor gives but half an hour to the history of its development, more than half the difficulty disappears.

MEDICAL NOTES.

— Huettenbrenner, of Vienna, has observed a second attack of scarlet fever in a boy three and a half years old. The child had the characteristic eruption, throat complication, and subsequent desquamation. Six weeks later, after complete recovery of the child, its older brother had the disease, and the first child was not kept apart, owing to his supposed immunity. Twelve days later he became ill with the ordinary symptoms of scarlatina, and passed through all the phases of the disease a second time. Huettenbrenner concludes that complete separation is indicated in every case in spite of the individual's having had the disease once.

MASSACHUSETTS GENERAL HOSPITAL.

MEDICAL CASES OF DR. MINOT.

Diabetes Mellitus; Effect of Salicylate of Soda. — A. W. C., twenty years old, a carpenter's apprentice, entered February 9, 1877. He had suffered for about thirteen months with the usual symptoms of diabetes. The amount of urine varied from five to six quarts in twenty-four hours; its specific gravity was 1033; it contained 5.8 per cent. of sugar. He drank from five to six quarts of water daily. He had lost twenty-eight pounds in weight since the beginning of his sickness. The teeth were much decayed. There were no pulmonary symptoms. The only incident of special interest in the case is the fact of his taking thirty grains of salicylate of soda three times daily for thirty days without the least improvement. Some relief was obtained from opium in half-grain doses every three hours. He was discharged June 8th, in about the same condition as when he entered.

Empyema ; Treatment by Drainage. — D. C. F., thirty-five years old, a decorative painter of china ware, entered February 27th, with the signs of a large effusion in the left pleura. A brother and sister had died of consumption; otherwise the family history was good. His own health had been good till three months before, when after exertion and exposure he was attacked with fever, pain in the left side, dyspnoea, and palpitation below the *right* nipple, which last symptom still continued. He was much prostrated, and unable to lie down. The chest had been punctured three times by a physician, but no fluid was obtained.

March 1st. A puncture was made three and one half inches below and just outside the left nipple, and three and one fourth pints of odorless pus were withdrawn by the aspirator, to the great relief of the patient. The impulse of the heart, previously felt outside the right nipple, was now perceived close to the right edge of the sternum, just above the xiphoid cartilage. The patient was placed upon a tonic treatment, and on the 5th of March an incision was made below the left nipple, between the fifth and sixth ribs. A pint and a half of pus escaped, and a rubber drainage tube having been inserted, three pints more of pus flowed out during the day. Weak solutions of carbolic acid were ordered to be injected. The condition of the patient improved at once, and on the 13th he was up and walking about the ward. Good respiration was heard in the upper half of the left chest, front and back, but the side was considerably retracted. There was no cough. The discharge diminished to about two ounces in twenty-four hours, and was much thinner. He left the hospital April 7th, still wearing the tube, and was heard from May 8th, in a "satisfactory condition; no cough, appetite good, sleeps well, up and dressed, and out-of-doors a little in good weather."

It seems probable that the failure in the first three attempts to draw off the fluid may have been owing to the trochar having entered the lung, which was perhaps adherent to the chest at the place selected, as some respiratory murmur was detected there at the time of the patient's entrance.

Hysterical Paralysis. — Flora W., twenty-two years old, a seamstress, entered April 9th. She is a delicate-looking girl, and has been subject to attacks of neuralgia from childhood. The present disease began fifteen weeks previously, with severe pain in the left side and much prostration. This was followed by some abdominal affection, characterized by vomiting, constipation, and swelling, with local pain and tenderness, and lasting four weeks, leaving her with almost complete hemiplegia of the left side, which continued at the time of her entrance. Dr. D. F. Lincoln, who kindly saw the patient, made an elaborate report of her condition, from which the following particulars are taken: There was anæsthesia to the prick of a pin (the sensation being described as that of the touch of a finger) over the whole of both lower extremities and on the left side of the trunk, face, and neck. Reflex action was abolished in the left leg. The left hand and arm were considerably wasted and flaccid. Voluntary motion of left hand, arm, shoulder, and leg was impossible. The muscles of the affected side responded feebly but decidedly to the faradic current.

Under the daily use of the galvanic current, as directed by Dr. Lincoln,

with lactophosphate of iron and good diet, there was a rapid improvement, and on April 29th the patient walked across the room without assistance, though with difficulty. May 12th, she walked down stairs, and though far from well she was so satisfied with her condition that she left the hospital against advice. As she has not been heard from since, it is hoped that her recovery was complete.

Paralysis following Diphtheria, complicated with Bronchitis. — M. B. F., aged seventeen years, a school girl, entered the hospital April 12th, in a state of great prostration. Three months ago she had had an attack of diphtheria lasting two weeks. She got about but did not regain her strength. The speech became affected, her limbs dragged, and the power of coördination was impaired. Latterly the muscles of deglutition were paralyzed, and at her entrance she could scarcely swallow at all. The dejections were at times involuntary. Her condition was also much aggravated by an attack of bronchitis, which, besides causing severe pain in the side from coughing, gave rise to partial suffocation from her inability to expectorate the abundant frothy and tenacious mucus. The temperature was not elevated; the pulse was at 100; the limbs were almost powerless.

Enemata of beef juice and brandy were given every two hours. Five grains of carbonate of ammonia and milk punch were ordered to be given every hour by the mouth, so far as the patient could swallow. There was a decided improvement in this respect within forty-eight hours, and she began to take food with ease on the 17th. There were abundant sonorous râles in both lungs, with copious expectoration of frothy mucus; but the chest symptoms yielded on the 18th, and she sat up on the 20th. She went out on the 24th, and was discharged well May 3d.

Uterine Fibroid treated by Enucleation after the Internal Employment of Ergot. — This case will be more fully reported hereafter. The patient, A. H., forty years old, single, entered the hospital April 12th, with a large fibroid tumor of the uterus which filled the pelvis and extended as high as the umbilicus. Profuse menorrhagia had existed for six months. The functions of the bladder and rectum were interfered with. The patient had lost considerable flesh and strength, and was quite blanched. The treatment was begun by fifteen drops of the fluid extract of ergot internally, which was increased to one drachm three times daily. Under the influence of the medicine the tumor was forced downwards and began to press on the cervix uteri. The margin of the os was nicked from time to time, and incisions were made through the capsule of the tumor.

June 15th. The body of the tumor was seized with strong, double hooks, turned out of its bed, and removed in two portions, each about the size of a fist. The woman had no serious symptoms and recovered perfectly.

Uterine Fibroid treated by Ergot. — M. K., forty-three years old, a nurse, entered the hospital April 2d, suffering from pain in the pelvic region, menorrhagia, and prostration. There was a large tumor in the abdomen, extending above the navel and behind the pubes. It could be felt below Poupart's ligament on each side, and was somewhat movable. Internal examination showed that it filled the pelvis and was an outgrowth from the anterior and

upper part of the womb. The pressure on the bladder and rectum caused much inconvenience, and there was a large bunch of shriveled hæmorrhoids outside the anus. The relations of the tumor with the uterus were such that the prospect of its extrusion under the influence of ergot was less hopeful than in the preceding case; but it was thought that the action of the drug might cause some absorption of the mass. The result of the treatment, faithfully carried out for a period of over fifteen weeks, showed unfortunately that the first surmise was correct and the last fallacious. The ergot gave rise to such an amount of pain that it had to be frequently suspended for some hours, and occasionally for a day. The pains were of a forcing, bearing-down character. When the patient left the hospital, July 21st, there was no perceptible diminution in the size of the tumor, but the hæmorrhage had greatly decreased. She continued the use of ergot after leaving the hospital, and when visited at her home, September 20th, she had had no bleeding in the intervals between the periods, and the menstrual flow was not excessive. It was thought, also, that there was some reduction in the size of the tumor, but accurate measurements were not made. The general condition was not much improved, and she was confined to the bed the greater part of the time.

In this case the growth of the tumor was outwardly in relation to the uterus, and the latter was finally almost surrounded by it; hence there was but little prospect that the tumor could be affected mechanically by remedies acting on the womb alone.

Endometritis; Movable Kidney. — Mrs. M. T., forty years old, entered the hospital April 19th, for uterine hæmorrhage. There was marked retroflexion of the uterus, the cervix was large and very hard, os patulous, cervical canal granular, red, and bleeding when touched. There was a constant but not excessive hæmorrhage. The patient was pale, thin, and exhausted. The symptoms had existed for about a year. The os uteri having been dilated by tents the interior of the cervical canal was scraped with a curette. The instrument was also carried into the cavity of the womb, but the dilatation was not perfect enough to allow its thorough use there. Dr. T. M. Rotch was kind enough to examine some of the scrapings with the microscope, and reported that they showed evidence of hyperplastic endometritis. The condition of the patient improved considerably, and she left the hospital "very much relieved" June 8th, having had no farther hæmorrhage up to that time.

This patient also had a movable tumor in the right hypochondrium, about as large as a kidney. While she sat up it could easily be pushed out from its bed by the thumb applied below the false ribs close to the right side of the spine, and be felt by the fingers in the hypochondrium. It was supposed to be a movable kidney.

Pleurisy; Rapid Recovery after Paracentesis. — William C., eight years old, was admitted May 9th. Two weeks previously, without obvious cause, he was suddenly taken with a chill, followed by hot skin at night and feverish breath, but no sweating. He had much cough without expectoration, considerable dyspnoea, weariness, and drowsiness. His mother stated that he had pain in the right side of the chest for the first few days; it then shifted to the left side, where it remained, though it was slight. His pulse was 108, very feeble.

There was complete dullness and absence of respiration throughout the left chest, except that close to the spine, opposite the upper part of the scapula, some faint respiratory murmur could be heard. The impulse and first sound of the heart were perceived just below and a trifle to the outside of the right nipple.

The chest was immediately punctured, and one quart of clear, greenish-yellow, somewhat viscid fluid was withdrawn, with much relief to the patient. He passed a comfortable night. The next morning vesicular respiration could be heard throughout the left back, though somewhat feeble in the lower fourth; it was fair throughout the front; fainter though evident in the axillary and lateral regions. The impulse of the heart was felt between the fifth and sixth ribs, about half an inch to the inside of the left nipple. Pulse 92. On the 11th he was up and dressed. On the 13th he went out, and he was discharged on the 16th, apparently quite well.

Curies of the Spine, with Obscure Symptoms.—The patient, a man fifty years old, born in England, was a mill operative. He reported that his family history was good. In August, 1876, he was struck with a small piece of iron, near the umbilicus. A few weeks afterwards he was attacked with severe shooting pains in the left side and back, which lasted, with intermissions, twelve weeks. He entered the hospital, March 9th, on account of a renewal of the symptoms. He had lost much strength and flesh, and did not sit up after his entrance. The appetite was poor; pulse 120; bowels regular. The abdomen was quite soft, and free from tenderness. No tumor was felt. The back and thighs were covered with little scars, from subcutaneous injections of morphia. He complained of constant pain in the lower part of the back, which was aggravated by any movement of the trunk. The treatment consisted in nourishing diet, stimulants, and morphia.

March 22d, the pain was unusually severe; he also complained of dimness of sight. After having obtained some relief from morphia, he asked to be turned on his right side, when he immediately expired.

The autopsy, made under the direction of Dr. FITZ, showed that the tissues about the second and third lumbar vertebræ were swollen and readily detached from the bones. The periosteum was completely separated from the bodies and the transverse processes. One of the nerves passing through the anterior foramina was imbedded in thickened and injected tissue. The cartilages were almost wholly destroyed, and were replaced by a gelatinous material. The cortical substance of these vertebræ consisted of a thin, white shell of bone, which was readily detached from the carious part beneath. The spinal cord at the seat of disease presented no abnormal appearance, nor was there any dislocation of the vertebræ. Other morbid changes were hypostatic pneumonia, splenic hyperplasia, hæmorrhagic cystitis, and chronic adhesive pericarditis.

LETTER FROM NEW YORK.

MESSRS. EDITORS, — A new idea seems to have possessed the minds of the board of governors of the New York Hospital. After spending a great amount of money in the construction of their building, they have just found out that the present want is not a hospital for the poor, but one for the rich; they have therefore made a rule that no free patient shall be admitted into the hospital. Since the rule has been enforced the census has run down from over one hundred to only fifty patients. This action of the board is giving rise to considerable criticism.

The internal organization of hospitals here differs much from that in Boston. The plan of having a medical man for superintendent is adopted in those institutions where their means will admit of it, but he is not a medical superintendent; he has nothing to do with the treatment of patients, being simply the executive officer of the hospital. The care of the patients, in the absence of the attending physician or surgeon, devolves entirely on the house staff, and they are responsible to him alone. There are generally at least two house staffs, one medical and the other surgical. Each consists of a house physician or surgeon and a senior and junior assistant. The term of service in each grade is six months. The juniors are appointed by a competitive examination, and must be graduates in medicine before they can come up for examination. On the completion of their full term of service they receive a diploma. The house physician or surgeon has full charge of his respective division and of the treatment of the patients, acting under his "attending." The "house" is also responsible for the work done by his staff, so that there can be no shifting of responsibility. During the absence of the "house" his senior assistant is acting house. On the surgical side the senior assistant takes the histories of all patients admitted into his division, does the dressings after all capital operations, has the care of all fractures, and does any other dressing demanding much care. He also sees that all the instruments are out and in order before an operation. The senior on the medical side takes histories and sees that the instructions of the house are carried out. The junior on the surgical side copies all histories into the case-book, takes temperatures, and does those dressings not falling under the care of the senior; he also washes and puts away the instruments after operations, and performs such other duties as his house may wish. The junior on the medical side copies histories, takes temperatures, etc. The house surgeon is allowed to perform capital operations with the consent of his attending. The design of the above plan is to have thoroughly drilled men for the respective positions they are called upon to fill. The old New York Hospital had the reputation of always having the best-drilled and disciplined staff in the city, and whatever of merit it possessed was due to the carrying out of the above plan. The staff system of most of the hospitals in the city is founded on that of the New York.

The organization of St. Luke's differs from any other hospital in the city, being denominational in its management. During the life of the late Rev. Dr.

Muhlenberg the position of superintendent and pastor was held by him; he was also a member of the board of trustees, and now that the position is vacant the board seem disinclined to make any change, but desire to continue the office so well filled by him. It is rumored that a bishop of the Episcopal Church, whose health will not allow him to continue in his present field of labor, has been asked to take the position. St. Luke's employs a resident physician, and appoints a senior and junior assistant without pay. From the peculiar organization of the hospital, appointments are not made strictly on merit, but religious, and perhaps social, qualifications have considerable weight. The tenure of office has hitherto been uncertain; resignations have been requested on account of a want of sympathy between those at the head of the hospital and individual members of the house staff.

The closing of the old New York Hospital on Broadway in 1869 left all the city below Fourteenth Street unprovided with hospital accommodation. The Board of Commissioners of Charities and Correction therefore opened a reception hospital in the City Hall Park, known as the Park Hospital, and ran in connection with it an ambulance; this was the beginning of the present ambulance system in New York. The plan was found to work so well at the Park Hospital that the commissioners soon introduced them at Bellevue. In 1875 the Park Hospital was given up, and the board of governors of the New York Hospital opened what is known as the Chambers Street House of Relief, containing twenty-six beds, to act as a feeder to their new hospital, then in the process of construction, and attached to it an ambulance. At this time Bellevue Hospital had connection by wires with all of the police and fire-alarm stations in the city; they have six ambulances ready to start at a moment's notice for any part of the city. On the opening of the new building of the New York Hospital the board obtained two new ambulances to be used in connection with the hospital. Within a few weeks the Roosevelt has provided itself with an ambulance. By a recent order issued by the Board of Police Commissioners the police are instructed to send accident cases to the nearest hospital furnishing an ambulance. Previous to this all cases were sent to Bellevue, even when a patient was injured within a few blocks of a hospital. During the year ending December 31, 1875, the number of ambulance cases which entered Bellevue Hospital was 1574 out of 5147 cases admitted. In 1876, at the Chambers Street Relief Hospital, with only a capacity of twenty-six beds, there were six hundred and twenty-two ambulance cases received. There is attached to each ambulance a surgeon, who always accompanies it when it goes out, and who is appointed for this purpose alone. I should have said that all ambulance hospitals have telegraphic connection with all police stations. It seems rather unjust that the hospitals should be made to provide ambulances; they not only have to care for the injured, but even to bring them to the hospital. The city ought at least to bring patients to the door if the hospitals will treat them gratuitously. The New York Hospital paid eight hundred dollars for its best ambulance. Bellevue six hundred dollars apiece. The one recently purchased for the Roosevelt cost only three hundred and fifty dollars; it will compare favorably, both in regard to finish and comfort, with those of either New York or Bellevue.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 29, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	522	25.19	27.46
Philadelphia	850,856	261	15.95	22.88
Brooklyn	527,830	214	21.08	24.31
Chicago	420,000	152	18.82	20.41
Boston	363,940	172	24.58	23.39
Providence	103,000	51	25.74	18.34
Worcester	52,977	27	26.50	22.00
Lowell	53,678	13	12.59	22.21
Cambridge	51,572	24	24.19	20.54
Fall River	50,372	29	29.94	22.04
Lawrence	37,626	18	24.85	23.32
Lynn	34,524	9	13.56	21.37
Springfield	32,976	4	6.31	19.69
Salem	26,739	8	15.56	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a regular meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Marion will report two cases of Fracture of the Skull.

VERMONT STATE MEDICAL SOCIETY. — This society will hold its annual meeting at the Pavilion, Montpelier, October 10th and 11th, commencing Wednesday, at ten o'clock A. M.

Order of Exercises. Election of Officers, Transaction of Business, Reports of Delegates and Committees. Reception of Delegates. Annual Address, George Dunsmore, M. D., President. Reports of Interesting Cases in Practice. Necrology, Sumner Putnam, M. D., and others.

Essays, with Discussion. Diseases of the Rectum, A. T. Woodward, Brandon. Thoracentesis, F. W. Page, Brandon. Diphtheria, R. K. Clark, Georgia. Disease Germs, E. L. Townsend, Richford. Forceps in Labor, G. B. Bullard, St. Johnsbury. Diseases of the Ear, A. P. Grinnell, Burlington. To be followed by volunteer papers. General Discussion, Spinal Anæmia, — to be opened by Henry Janes, Waterbury. S. S. CLARK, *Secretary*.

ERRATUM. — Page 390, second line, "glottis openings" should read "glottis openers."

BOOKS AND PAMPHLETS RECEIVED. — Ziemssen's Cyclopædia. Vol. XVI. New York: William Wood & Co. 1877.

Practical Hints on the Selection and Use of the Microscope. By John Phin. Second Edition. New York: The Industrial Publication Company. 1877.

Biennial Report of the Mountain Sanitarium for Pulmonary Diseases, Asheville, N. C. By Dr. W. Gleitsmann, Proprietor. 1877.

Sycosis: Prize Essay for 1877 of the Bellevue Hospital Medical College Alumni Association. By A. R. Robinson, M. B., L. R. C. P. and S. Edin. (Reprinted from the New York Medical Journal.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, OCTOBER 18, 1877. — NO. 16.

THE DEVELOPMENT OF THE MIDDLE EAR.¹

BY DAVID HUNT, M. D.

“ A SYSTEMATIC physiology depends principally upon embryology, and cannot develop rapidly until the history of development is more perfected ; for this history furnishes to the philosophical student the material for forming a well-founded conception of organic life. Therefore anatomists and physiologists should work more in this line than they now do ; that is, every organ, every material, and even every function should be investigated with this question in mind, How have they originated ? ”

The history of embryological research bears witness to the truth of the above opinion, which I have freely translated from one of the great workers in embryology, — Emil Huschke. It was an earnest expression of a thought that had its origin in a philosophical study of Nature herself ; unfortunately, thoughts founded upon such study but too often appear visionary to practical workers in text-book literature, so that to-day, in spite of the revival of interest in embryology, Huschke's words of forty years ago are just as appropriate as they then were.

Anatomy needs in every department the most general application of embryological research, not as a polish, not as a luxury, but as essential to a good understanding of it. Anatomy is presented as a mountain of dry, barren facts that are to be mastered by memory ; the relations of position and function are almost the only relief to its barrenness. How different would it be if the history of the formation of the parts should enable the student to employ living, interesting principles by which to group and order the mass of details !

I have consulted the works of Fabricius ab Acquapendente, Malpighi, Leeuwenhoek, Cassebohm, Valsalva, Scarpa, Meckel, and Soemmering in vain for notices concerning the development of the external ear passages. Von Baer may be said to have begun this work ; his contemporary, Huschke, furnished the views which are at present held. After stating their views we will trace the opinions concerning this question to our own day. Von Baer gives a summary of his observa-

¹ Read before the Suffolk District Medical Society, September 29, 1877.

tions on page 116 of the second part of his great work, *Entwickelungsgeschichte der Thiere*, as follows: "A diverticulum lined with mucous membrane grows from the pharynx toward the ear; it forms the Eustachian tube, and without doubt the tympanic cavity. This diverticulum begins just at the time at which the first branchial fissure closes and at the place of its closure; on the inner surface a transverse furrow remains for some time as a mark of the place of union of the first branchial cleft. The superior termination of the furrow extends gradually and forms the Eustachian tube; the rest of the furrow is obliterated. We will not leave unnoticed the facts that the Eustachian tube, at first very wide, as in the reptiles, at a later period becomes longer, yet lies upon the pyramid as in the mammalia; at last, however, as a characteristic of the birds, it is inclosed in the pyramid. The outer ear is formed by a development of the skin, which begins as a puffy wall, like that forming the eyelids. As the otic vesicle does not reach the surface, an involution is now formed which grows from this little prominence, through the substance lying under it, toward the vesicle; this is the meatus externus. The situation of this involution is, indeed, the space between the first and second branchial arches; still, I believe that I have with certainty observed that the first branchial fissure is first perfectly closed, though no furrow is perceived externally."

The view at present held, that of Huschke, is as follows: The first branchial arch unites with its fellow of the opposite side, thus forming a first branchial cleft continuous from one side to the other; a thin membrane then extends backward from the place of union of the first arches to the extremities of the second arches; this gives us a branchial cleft on each side, divided by this bridge of tissue from its fellow of the opposite side; these clefts close from their distal extremities, so that at last their proximal ends only remain open; this opening leads directly into the pharynx; the walls of the opening unite in their median portions to form the drum, leaving, internally, the pharyngeal extremity as the Eustachian tube, and the outer extremity as the meatus externus.¹

Valentin² believed that the Eustachian tube was the remains of the inner portion of the first visceral cleft, but doubted if the tympanic cavity and the meatus externus were formed from it; in explanation of this doubt he says: "For if this cleft is at first somewhat wider posteriorly, it is seen, as soon as it is closed by a thin membrane, that the external indication of the opening of the ear is not on a line with this thin portion of skin, but plainly below it, in the substance of the posterior border of the first branchial arch. Indeed, if the fissure itself did form the meatus, it must have taken a different direction,

¹ Isis von Oken, vol. xx. p. 401, 1827; p. 162, 1828; p. 951, 1831. Meckel's Archiv für Anat. und Phys., p. 40, 1832.

² Handbuch der Entwicklungsgeschichte des Menschen, Berlin, 1835, s. 211 and 212.

since the meatus externus does not continue the line of the previous branchial cleft, but cuts it at an oblique angle, as Huschke's own illustrations show."¹ Further on Valentin says: "The formation of the tympanic cavity takes place at the outer part of the hollow chamber opening into the mouth cavity: the inner wall of this chamber lies upon the closed opening of the labyrinth vesicle; its outer wall belongs clearly to the visceral plates. At the time when the Eustachian tube and tympanic cavity form a wedge-shaped passage, as I have seen it in a human embryo at the seventh week, a roundish pyramidal projection grows forward from the place where the involution, which at an earlier stage of development represented the labyrinth, closed; below and a little behind it is a similar but thicker growth; the first projection is the rudiment of the stirrup, the second the anvil and hammer. The outer opening of the tympanic cavity is closed in at this time, not only by a thin layer of integument, but also by a granular substance belonging to the visceral plates."

In 1847 Valentin² gives a different description, as follows: "The posterior angle of the first branchial fissure is closed merely by a thin membrane, the future annulus tympanicus. The section of the cleft inside this place of closure lengthens later, so that it forms the tympanic cavity and the Eustachian tube. The drum lies at first free to the surface, not in the same plane, however, but in a little furrow which is the rudiment of the meatus externus."

Ratlke³ at first sided with Von Baer in his view as to the formation of these parts, but soon afterwards we find him following the lead of Huschke.⁴ Yet in 1839⁵ he describes a furrow in the pharynx, which, at the beginning of the second period (the second period extended from the time at which there were four branchial clefts to the time when they were all closed), is scarcely indicated, but at the end of this period is quite deep; and then he says that this cavity represents the chamber which in young embryos of the mammalia forms the tympanic cavity and the Eustachian tube. In 1861⁶ he describes the process as follows: "In birds and the mammalia the anterior (or first) branchial cleft grows together at about the middle of its depth; at this place of union the drum is formed; the outer section of the cleft becomes the meatus externus, the inner section the tympanic cavity and the Eustachian tube."

Bischoff did not devote much space to this subject; he appears to have accepted Huschke's views without much discussion.⁷

¹ Isis, 1828. Tab. 2, figs. 3 and 4.

² Lehrbuch der Physiologie des Menschen, Braunschweig, 1847.

³ Isis von Oken, 1828, p. 85.

⁴ Anat. Physiolog. Untersuchungen über den Kiemenapparat, 1832, pp. 119 and 120.

⁵ Entwicklungsgeschichte der Natter (*Coluber Natrix*). Koenigsberg, 1839.

⁶ Entwicklungsgeschichte der Wirbelthiere, Leipzig, 1861, p. 117.

⁷ Entwicklungsgeschichte des Hunde Eies, Braunschweig, 1845, p. 109.

In 1851 Corti¹ and Reissner² published their famous researches upon the cochlea and on the internal ear; since this time much labor has been expended in working the field that they mapped out. Wonderful results have also been obtained by the study of the development of the ear in the invertebrata.

Kölliker,³ in 1861, merely states the view of Huschke. In the new edition of his work⁴ (the first half of which only has appeared), on page 300, he gives a figure showing a section of the head of a rabbit embryo ten days old, which he describes as follows: "The anterior part of the pharynx is seen, in regard to which it is to be noticed that its side wall on one side borders on the ectoderm, which is here somewhat depressed. The first branchial cleft was situated at this point, but this cleft is now closed; here also the tuba Eustachii and the membrana tympani are formed." In figure 175 (page 253) a rabbit embryo of the same age is portrayed with the first cleft wide open; this illustration is confirmed by the figure on page 300, where, although the text describes the first cleft as closed, the inferior maxillary processes of the first arch are not yet united. (In the description of figure 300 it is stated that the pharynx opens outwardly by means of a fissure between the inferior maxillary processes of the first branchial arch.) Such a relation is in direct contradiction to well-settled facts; surely no observer has seen an embryo in which the first branchial fissure is closed while the inferior maxillary processes are not yet united.

Schenk⁵ dismisses the subject of the development of the Eustachian tube and the tympanic cavity with the following description: "The first branchial cleft in which the auditory ossicles come to be situated is the site of the tympanic cavity and the Eustachian tube." On page 138 he describes the outer ear as consisting at first of a round depression, in the bottom of which a little ridge is seen that corresponds to an auditory ossicle; he says that this depression is, according to his previous observations, the remains of the first branchial cleft, and that the place of closure remains membranous, forming the tympanum, which, even in the embryonic condition, is covered on both sides with epithelium. From this description it would seem that the cleft closed, leaving a depression on the external surface of the embryo; that this depression is the *membranous* drum covered with epithelium on *both sides*, and still an auditory ossicle forms in it.

Foster and Balfour⁶ neglect all reference to the external ear passage

¹ Corti, A. *Recherches sur l'Organe de l'Ouïe des Mammifères.* Siebold's and Kölliker's *Zeitschrift für wissenschaftliche Zoölogie*, Bd. iv. p. 109, 1851.

² *De Auris internæ Formatione.* Dissert. inaug. Dorpat, 1851.

³ *Entwicklungsgeschichte des Menschen und der höheren Thiere*, pp. 120 and 321.

⁴ Wilhelm Engleman, Leipzig, 1876.

⁵ *Lehrbuch der vergleichende Embryologie*, Wien, 1874, pp. 82 and 138.

⁶ *The Elements of Embryology.* Macmillan & Co., London, 1874.

of the chick, although they borrow Böttcher's description of the development of the internal ear in the mammalia ; this omission is particularly unfortunate, as the many excellences of the work will bring it into general use as a text-book in England and America.

Mr. W. K. Parker's paper¹ is one of the most elaborate upon the subject which concerns us in our modern English literature ; it is well illustrated, and like all of Mr. Parker's work is the result of honest, individual research. It offers a good opportunity of comparing the views which we shall present with those held by an observer who in his researches has employed the embryo of the animal which we have used ; moreover, Mr. Parker's article is one of the fullest recently published, and almost the only illustrated statement of the views which are commonly held upon the development of the meatus, middle ear, and Eustachian tube.

Figure 8, plate xxviii., exhibits a horizontal section of the head of an embryo pig, two thirds of an inch long ; the point of greatest interest to us is the cavity which is described as the first branchial cleft, in front of which the trunk of the facial nerve is located, external to it the jugular vein, and surrounding it the auditory sac. If this cavity were what it is described to be, it would follow that the trunk of the facial nerve lies in the mandible, the jugular vein in the new connective tissue that has filled in the first branchial fissure, and the fissure itself must have made an involution into the head-plates to have reached the site of the auditory sac, which is located in the head-plate above the root of the second arch ; all these conclusions are manifestly incorrect, and the source of the error lies in the false opinion as to the character of the cavity referred to, which is in reality the interior of the auditory sac. Figure 9, plate xxix., is a view of the same cavity on a much larger scale, and as the auditory sac was bisected near its central portion, the figure furnishes much plainer evidence of the truth of the statement that we have just made ; it is not difficult to trace the different parts of the auditory vesicle in the figure, though the nearly horizontal section is not so favorable to their demonstration as a vertical section would have been. The lower part of the cavity is partially divided by a projection of the surrounding tissue into two unequal parts ; the larger, to the right, is that part of the sac where the sacculus rotundus forms ; the lesser, to the left, is the section of that part of the sac from which the vertical semicircular canals are formed ; the projection into the sac which is described as the head of Meckel's cartilage lies just under the point where the horizontal canal is being formed. Figure 10 of the same plate is a section extending the whole breadth of the head : the right of the figure shows the left side of the head of the embryo, where

¹ On the Structure and Development of the Skull of the Pig (*Sus Scrofa*). Philosophical Transactions, vol. clxiv., part 1st, 1874.

the section is situated in a higher plane than on the other side; the description of the figure contains all the errors that we have referred to, but as additional proof the relations of the aquæductus vestibuli are shown; the same cavity, described here as elsewhere as the first branchial fissure, is seen just outside of the section of the aquæductus, *which on the left of the figure borders the cavity*; this itself is indubitable proof of the truth of the assertion that we have made, that Mr. Parker confuses the interior of the auditory sac with the first branchial fissure; the error is rendered the more striking from the fact that the aquæductus is cut across after it has bifurcated, to send one branch to the future sacculus rotundus and the other to the future utriculus, consequently after it has entered the cavity of the auditory vesicle; this bifurcation explains the double lumen of the aquæductus, which seems to cause some doubt to Mr. Parker. (See page 299.) On the right of the figure the cavity just outside the aquæductus is called the tympanic cavity, and the description would make it appear that the aquæductus opens into this part of the ear; the cavity is the same as that shown on the other side of the figure.

Mr. Parker's account of the formation of the drum is somewhat conflicting: thus in figure 9, plate xxix. (embryo two thirds of an inch long), he describes a growing outward from the wall of the ear sac of the lining skin of the cleft to meet a growing inward of the same lining skin from the outer face; the union of these growths forming the drum. In figure 5, plate xxxii. (embryo one and one third inches long), we find the drum consisting of two epithelial surfaces inclosing a thick layer of connective tissue, in the midst of which the long process of the hammer is imbedded; the text contains no explanation of the occurrence of the bone and connective tissue between the two epithelial surfaces that were just about uniting to form the drum in an embryo two thirds of an inch long.

It has seemed to me impossible to reconcile the description of the formation of the meatus externus with the appearances which are shown in the plates. In figure 9, plate xxix., we see that the formation of the drum would leave the meatus a large inclosed cavity with no communication outwardly; in figure 5, plate xxx. (embryo one inch long), we find the meatus figured as a depression on the surface; and in figure 5, plate xxxii. (embryo one and one third inches long), this depression has extended still deeper, so that, as is seen in figure 5 of this plate, it extends underneath the outer section of the Eustachian tube. It is difficult to imagine any connection between the structure referred to in plate xxix. and that, which is really the meatus, shown in plates xxx. and xxxii.

The description of the formation of the Eustachian tube is equally contradictory: thus referring again to figure 9, plate xxix., it will be seen that the tympanic cavity is described as partitioned off from the

meatus by the formation of the drum, and that it has no communication with the pharynx. On page 302 (referring to figure 5, plate xxx.) the first description of the Eustachian tube is given as follows: "The dark, jagged space is the tympanic cavity, a development of the first post-oral cleft, which runs forward into the mouth cleft as the Eustachian tube." This description would lead us to think that the Eustachian tube grows downward from the middle ear cavity to the pharynx.

If we analyze the opinions cited we shall find much that is contradictory and much that is impossible. Huschke's view, as originally stated by him, had the merit of being easily understood and of appearing very plausible; so plausible, indeed, that most writers since his time have endeavored to torture the facts as they observed them into an accordance with his descriptions. Thus Valentin in 1835 believed that the Eustachian tube was a part of the first cleft, and is confused concerning the development of the meatus, etc.; in 1847 he describes the bottom of the little depression, which we have shown ¹ becomes the concha, as the drum. Rathke, after giving various descriptions, settles in 1861 upon the views of Huschke. Kölliker gives Huschke's views, but we find some striking inconsistencies in the old and new editions of his work: thus in the old edition he states that the ossicles are formed (in cartilage) at the end of the second or the beginning of the third month, yet he derives them from the first and second branchial arches; surely there can be no talk of branchial arches at this stage of development. Farther he correctly describes the ossicles as forming in the connective tissue above the tympanic cavity, and the cavity as a section of the proximal end of the first fissure; now these very descriptions locate the ossicula in the head-plates at a point midway between the line of the first and second arches. We have noticed apparent inconsistencies in the new edition.

Schenk recapitulates the mistake of Valentin, made in 1847. Mr. Parker's errors are the most striking, since he repeatedly speaks of the interior of the auditory sac, which you will remember forms the cochlea, canals, and vestibule, as the first fissure.

So many and such eminent observers could not have erred upon a point of such simplicity unless some general cause existed that gave rise to their confusion. I believe there is one principal cause, namely, the embryos used in their observations were too far advanced in their development. The embryos which we show this evening as a series illustrating the growth of the auricle, a part so late in its development, are with one exception younger than the youngest which Mr. Parker describes in this connection.

The view which we have heretofore stated ² is in the main that which

¹ Amer. Jour. Med. Sci., January 1, 1877.

² Report of First International Society, September, 1876, and American Journal of the Medical Sciences, January, 1877.

Von Baer advanced in 1828, namely, that the Eustachian tube and middle ear are formed by an involution of the pharyngeal mucous membrane; that the meatus externus is an involution of the integument; that the drum is cut off, as it were, by the former involution overlapping the latter; and that the membrana propria of the drum is the connective tissue included between the tube and the meatus. I will not trouble you with details already published, but would call attention to the fact of their priority, since Dr. Urbantshitch, as I learn from a review in the *Archiv für Ohrenheilkunde* (Bd. 12, Heft 4), has recently

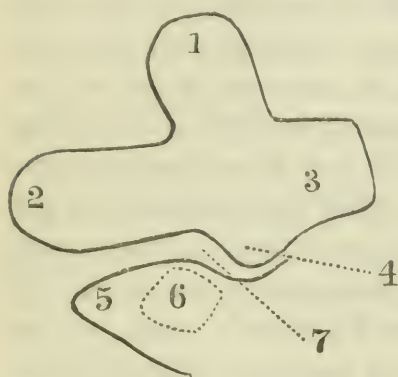


FIG. 1.—1, Superior maxillary process of first branchial arch. 2, Inferior maxillary process. 3, Root of arch. 4, The angle, at junction of proximal and posterior borders, forming ridge (1, Fig. 2). 5, Second arch. 6, Round nodule which forms posterior portion of auricle (2, Fig. 2). 7, The slit (3, Fig. 2).

published the same facts as discoveries of his own. The review referred to states that Dr. Urbantshitch could find no perforation in the embryonic drum to account for the Rivinian foramen, which has furnished so much material for anatomical discussions. I have seen no perforation, but have supposed that the foramen is, when it occurs, an accidental defect, such as is often seen in such secondary structures as the tissues in which it is located. Meckel's cartilage is attached to the cartilaginous hammer, and only after its absorption does that part of the drum which covers its site form; in this structure I believe that we meet with a Rivinian foramen for the same reason that we often meet with congenital umbilical hernias. The imperfection in the annulus tympanicus has the same causation.

One point I wish to illustrate a little more in detail, since I believe that it has never been demonstrated. I refer to the formation of the auricle. I have made these rough sketches and brought embryos of nearly the same period of development as those from which the sketches were made to illustrate a matter that is difficult to describe without such aids. Nothing more specific has been said upon this point than that a ridge of skin forms the auricle. Kölliker, in 1861, said that the auricle forms at the end of the second month (human). I believe that he

merely notices the completion of a very interesting process, which, as it occurs on the surface, you can observe for yourselves upon these embryos. There is a small, circular elevation upon the second bran-

published the same facts as discoveries of his own. The review referred to states that Dr. Urbantshitch could find no perforation in the embryonic drum to account for the Rivinian foramen, which has furnished so much material for anatomical discussions. I have seen no perforation, but have supposed that the foramen is, when it occurs, an accidental defect, such as is often seen in such secondary structures as the tissues in which it is located. Meckel's cartilage is attached to the cartilaginous hammer, and only after its absorption does that part of the drum which covers its site form; in this structure I believe that we meet with a Rivinian foramen for the same reason that we often meet with congenital umbilical hernias. The imperfection in the annulus tympanicus has the same causation.

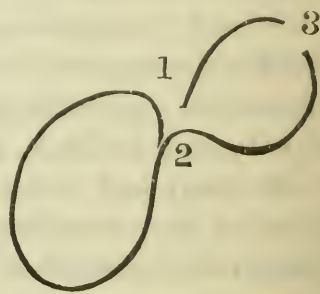


FIG. 2.—1, Anterior median portion of auricle. 2, Apex and posterior portion. 3, Slit which occasions irregularity in helix.

chial arch of an embryo one half an inch long (fifth or sixth week of human embryo, or perhaps still younger). (See Figure 1.) By continuing the observations through various stages of growth I find that it is the origin of the thick ridge which forms the posterior portion of the auricle, while the angle made by the junction of the proximal and posterior borders of the first branchial arch forms another ridge that gives origin to the anterior superior portion of the auricle. (See Figure 2.) These structures are situated, respectively, upon the second and first branchial arches; in an embryo nine sixteenths of an inch long these arches are fused excepting at the point at which the auricle is forming, and here the opening is entirely superficial excepting at the very uppermost part of the future auricle; here a slit remains as a trace of the first cleft. I now believe that the opinion expressed in the *American Journal of the Medical Sciences* last January is correct, and that this slit is the cause of the little irregularity in the helix which we notice particularly in young children.

The connection between the formation of the auditory ossicles and the occurrence of the mastoid cells, which I described at the same time (January, 1877), is also interesting, since it furnishes a cause for that strange structure, the mastoid process. In looking for an intelligent purpose in its creation we shall find but little to satisfy us; the cells appear to be useful only as the appendix to the cæcum is, to furnish troublesome and sometimes fatal complications in diseases. While the connective tissue about the site of their formation is developing into dura, skull, and muscle, that in their immediate neighborhood is undergoing interesting changes: fewer cells are produced in it, so that its appearance is more that of a net-work and less that of compact tissue; the processes of the individual cells are long, and make up an important part of the substance of the connective tissue in this neighborhood; the energy that belongs to the part seems to be expended mostly in the formation of the ossicula; at a later period the ossification of this spongy connective furnishes the thin laminæ of bone that bound the mastoid cells.

NOTE. — The early development of the Eustachian tube may be studied by making sections a little anterior to the otic vesicle; the section should cut the first branchial arch obliquely, from above, downward and forward. Continuing the sections posteriorly we shall obtain instructive views of the development of the otic vesicle (that is, internal ear), since the Eustachian tube is nearly parallel to the curve of the non-spiral cochlea; later, when the spiral forms, the tube is nearly parallel to the curve which would bound the inferior border of a plane bisecting the cochlea into anterior and posterior halves.

EPITHELIOMA OF THE LACHRYMAL GLAND.

BY J. CHESTER LYMAN, M. D., SAN FRANCISCO.

THE following peculiar case occurred last spring in the practice of Dr. Henry W. Williams, during my service under him at the Boston City Hospital, and he kindly consented to my reporting it.

Daniel B., a clergyman, thirty years old, entered the hospital on the 8th of May with the following history:—

Two and a half years previously he began to be troubled with considerable neuralgic pain throughout the left side of the forehead, and extending downward into the corresponding eyeball. A little later he received an accidental blow upon the same eye, and a few weeks afterwards slight protrusion of the globe was noticed. The exact dates were not to be obtained, but all this was within two or three months of the beginning of the pain.

At the time of admission the exophthalmos occasioned great deformity, the globe protruding nearly half an inch beyond its normal position; vision was perfect, and the pain but slight, having materially diminished during the past two years, and having been intermittent in character. By the touch a tumor, the size of which could not be determined, was detected in the neighborhood of the lachrymal gland, and was evidently the cause of the protrusion of the globe.

Ether having been administered an incision an inch and a half long was made just below and parallel with the middle and outer portion of the arch of the orbit, and the entire growth was removed. To accomplish this the excavation had to be carried to the depth of an inch and a quarter, the tissues being separated in a great measure by a director, and the use of the scalpel avoided as much as possible. There was very little hæmorrhage after the operation; suppuration was slight, and the discharge was encouraged by keeping the wound open by means of a pledget of lint. For a fortnight there was a good deal of œdema of the lids and conjunctivæ, but this gradually diminished, and four weeks after the operation the patient was discharged nearly well, a small amount of diplopia and local swelling remaining.

The tumor removed from the orbit was an inch in length by one half to five eighths of an inch in other diameters; it was irregular in shape, and not of very hard consistence. Dr. Fitz examined it microscopically and found it to be an epithelial cancer, and, though glandular tissue was not satisfactorily demonstrated in the tumor, the following facts point to the lachrymal gland as the locality in which the disease commenced:—

The epithelial nature of the cancer indicates that the tumor sprang from an epithelial surface. Now there was nothing superficial in this

growth; it was deep seated, and neither on the skin nor the conjunctiva was there any sign of disease. It was in the immediate neighborhood of the lachrymal gland, from which it is possible for it to have arisen, and at its depth and locality it could have started from nothing but this gland.

It is reasonable, therefore, I think, to suppose that the growth involved the entire gland, and so far destroyed it as to prevent its recognition; otherwise we must consider that this tumor, arising from the gland, spread into the surrounding tissue. But this idea is incompatible with the great care taken to remove every particle of tissue at all hard or lumpy to the touch, and the fact that no glandular structure was found.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

Primary Lupus of the Conjunctiva. — Neumann¹ observed a case of this rare affection in a girl of twenty-two years. Five years before, a tumor of the size of a pea appeared in the inner angle of left eye, which was opened, suppurated several months, and then cicatrized. A few months later isolated, readily bleeding elevations appeared on the conjunctiva of the lower lid. A physician diagnosed lupus, and repeatedly removed and cauterized the growths, but the disease spread to the globe and upper lid, both lids became attached to the globe, and sight was lost. Three years after the trouble commenced in the conjunctiva nodules developed in the upper lip and the lower part of the nose.

Neumann found the tip and alæ of the nose drawn in and covered with scales and nodules. The left eye was shrunken, with a shallow depression in the position of the cornea. A portion of the edge of either lid had lost its lashes, was contracted, incurved, and attached to the globe by short, dense symblepharon. The inner surface of the lids, so far as it could be seen, and the surface of the globe were covered with dense, grayish granulations, over and between which projected ragged, easily bleeding excrescences. This tissue consisted of an infiltration of small round cells imbedded in a firm meshwork, and containing numerous capillary vessels. The epithelium of the conjunctiva was hypertrophied, and plugs of epithelial cells projected backward as in epithelioma, while the deeper layers of the conjunctiva contained also giant cells, generally collected in groups.

Transplantation of the Cornea. — In 1824 Reisinger published an account of successful transplantation of a portion of cornea from one rabbit to another, and in the following years his experiments were re-

¹ Wiener med. Presse, No. 293, 1877.

peated and modified by others, several succeeding in obtaining union of the transplanted piece, some even claiming that it remained transparent. In a few instances, also, transplantation of the rabbit's cornea to man was effected, but without preservation of its transparency. Ignorant of these earlier attempts, Dürr¹ transplanted, in some twenty cases, slices of cornea from one rabbit to another. The pieces transplanted were five to eight mm. long, five to six mm. broad, and about one mm. thick, consisting of a layer of corneal substance covered with epithelium. The refreshed surface on which they were placed was somewhat smaller than this, to allow for shrinkage. On the peripheral parts of the cornea the transplantation always succeeded, never on the more central parts. It was found to be best to remove with the slice of cornea to be transplanted a narrow strip of scleral tissue and a conjunctival flap some four mm. long; then at the edge of the refreshed surface prepared for the reception of the slice, to dissect up the conjunctiva and secure the conjunctival flap beneath this by a fine suture. The slice having been placed in proper position, the lids to be closed by a suture.

The operation is followed by but little reaction, and attachment is generally effected by the second day. The epithelium of the transplanted piece unites during the first days with that of the edges of the wound, and does not change afterward. The transplanted corneal substance becomes at first thickened and opaque; after a few days superficial vessels develop into it from the conjunctiva, then deeper vessels into its substance, and about the end of the first week the vascularization is sufficient to give to it a reddish color. Next, while the deeper vessels progress, the corneal substance takes on a more yellow tinge, at first in spots, then more uniformly, and swells more, so as to appear as if undergoing suppurative destruction. After the second week, however, these changes diminish; swelling, opacity, and vessels recede. Generally, in six weeks assimilation is complete. Then there remains only a slight line of cicatrization bounding the transplanted flap. The flap itself is as transparent as the rest of the cornea and of like curve.

The success of these experiments led to similar operations on the human subject. The first patient was a boy of ten years old, a pupil in a blind asylum, whose eye was leucomatous. A slice of cornea five mm. in length and breadth was transplanted from a rabbit. The course of the healing was as above described in the rabbit, and in two months the transplanted piece appeared as an island of uninjured corneal substance in the leucoma. The cornea resembled a piece of ground glass on which a spot had been made transparent by a drop of oil. The boy, who had previously been able to distinguish only light and darkness, could now distinguish large objects and find his way about.

Six other cases were operated on: two on account of leucoma, two

¹ *Klinische Monatsbl. für Augenheilkunde*, September, 1877.

for dense corneal opacities, one for perforating ulcer of the cornea, and one for the cure of a peripheral corneal ulcer which refused to heal under other treatment. The flaps transplanted were six to twelve mm. long and six mm. wide. In all but the last case was the transplantation successful; in that want of success is attributed to the restlessness of the patient. In the case of perforating ulcer there was a prolapse of the iris of the size of a hemp seed, yet the flap united as in the other cases, though there was no corneal tissue beneath it. Even on the twelfth day the flap was quite transparent, and the changes in the floor could be seen through it, as well as the diminution of the prolapse to the size of a pin's head. But these last six cases were not sufficiently advanced to give definitive results when Dürre wrote his paper. He believes that, though the number of cases is small, they are yet sufficient to give a firm basis for farther endeavor, and that the method offers a means of improving vision in a class of cases hitherto unbenefited by treatment.

A case of corneal transplantation is also published by Power,¹ of London, even more remarkable than the above cases. A man of sixty-one years was admitted to hospital in October, 1876, with ulcer of cornea, hypopion, and iritis. The hypopion was removed by incision but ulceration increased, with bleeding into the anterior chamber and obliteration of the pupil. The latter part of November iridectomy was performed. March 20, 1877, another iridectomy was attempted, but it was possible to remove only a small piece of iris and a portion of exudation from the anterior chamber. There was only quantitative perception of light. On April 3d, cornea, iris, lens, and a small amount of vitreous were removed. A transparent cornea with narrow border of sclerotica taken from an eye just before enucleated from another patient, and meanwhile preserved in a tepid five per cent. solution of salt, was then placed on the stump and fastened by six silver sutures. For three days there was great pain; on the fourth the eye was opened; the cornea was clear, except for a cloudy crescent at its lower edge, and there was perception of light. A week after the operation the cornea appeared somewhat cloudy, but was completely attached. During the next two weeks the cornea became more opaque and slightly shrunken, while two small ulcers formed on its lower part, but again healed. The eye was remarkably free from sensitiveness. Tension was somewhat diminished. Perception of light remained. April 27th the patient left the hospital. On June 1st the transplanted cornea was pretty clear; a false membrane crossed the anterior chamber. Tension was nearly normal, and the eye perceived movements of the hand. By the 25th of June, however, there was only perception of light, and the cornea had become again more opaque and somewhat shrunken.

Healing of Wounds of the Cornea. — Wyss² studied on rabbits the

¹ Centralblatt für pract. Augenheilkunde, July, 1877.

² Virchow's Archiv, lxi. 1.

method of healing of incised wounds of the cornea. If the wound does not extend through the whole thickness of the cornea it is, in its whole depth, filled by a proliferation of the corneal epithelium by the end of one or two days; and the great importance of the epithelium in the healing process is farther evident from the fact that if the wound be made in the midst of a surface from which the epithelium has been removed it continues to gape till the epithelium has been reproduced and extended into it. When the wound is a penetrating one its anterior two thirds is filled by epithelium, its posterior part gapes, there is an incurvation of the membrane of Descemet at its edges, and the posterior layers of the cornea, owing to the action of the aqueous, become somewhat swollen. A finely granular substance, a deposit of fibrine from the aqueous, fills the posterior part of the wound. Neither in this case nor when the wound is made from the anterior chamber outward, either into or through the cornea, is there any proliferation of the endothelium lining Descemet's membrane into the wound. From the fourth day begins a change in the epithelium filling the wound, and it is replaced by a meshwork of fine fibres containing numerous nuclei, while in the neighboring corneal substance appear many spindle-shaped bodies which seem to be connected with the corneal corpuscles. Later the cicatrix consists only of a meshwork of fibres, and gradually decreases. The presence of round cells in the corneal tissue about the wound is not a necessary part of healing by first intention; it is a symptom of inflammation, and only impedes the healing process.

Ophthalmoscopic Appearances in Insanity. — Klein¹ reviews the varying and contradictory results of different observers in this field, and attributes their discrepancies in part to the fact that most of them used only the reversed image. Klein himself examined one hundred and thirty-four insane patients with the upright-image and weak-light mirror. Atropine was used in about one half of the cases. Among the cases were forty-two of general paralysis, nineteen of mania, nineteen of epilepsy, seventeen of alcoholismus, etc. Positive changes were found in eighty-nine cases; the result of examination was negative in twenty-seven, doubtful in eighteen.

But the significance of this large proportion of changes in relation to the statements of other observers is modified when the nature of the changes is considered. Such alterations of the fundus as have been reckoned as positive by others were found only in thirty-one cases: in nine retinitis, in eight discoloration of the papilla, in six atrophy of the opticus, and in eight hyperæmia of the retina. Of the remaining fifty-eight, twenty-nine presented indeed variations from the normal standard as to the form, color, or boundary of the disc, the size or distribution of the vessels, but these anomalies could not be placed in any definite

¹ Wiener med. Zeitung, 51, 1876. Wiener med. Presse, 2, 1877.

category of disease, were mostly of development, few acquired, and were distributed in nearly like proportion among all the forms of insanity observed.

Finally there were twenty-nine cases which offered ophthalmoscopic appearances sufficiently definite to be described together. These appearances consisted first in a lack of transparency of the retina similar to that which occurs as a senile change in every normal eye, but of greater degree, and not here to be regarded as simply senile, since comparatively young individuals were the subjects of it; second in a peculiar affection of the walls of the retinal arteries (sclerosis, fatty degeneration, or some other process), which was evident as an interrupted widening of the arteries, while the central reflex remained of the same breadth.

Since eighteen of the twenty-nine patients in whom this change was observed were the subjects of general paralysis, and it occurred in a large proportion of all the cases of general paralysis (eighteen to forty-two), Klein proposes, for want of a better name, that of retinitis paralytica. The described change cannot be considered as characteristic of progressive paralysis, however, since it was found, though in a very much smaller proportion of cases, in several other forms of insanity. It is possible that this diminished transparency of the retina may be due to like alterations to those which produce senile degeneration, and thus point to an early general senile metamorphosis dependent on the progressive paralysis. But there appears more reason to regard the affection as offering the same evidence as a symptom as does the diffuse retinitis which occurs with various cerebral diseases, and especially with progressive paralysis, that is, as pointing to an affection of the cortex cerebri.

Embryological as well as histological investigations (Meynert) show that the retina is a portion of the cortex cerebri, and the opticus is not a nerve proper, but a process of the cerebral medullary substance. While, then, several writers have found in general paralysis the cortex cerebri to be the seat of an inflammation resulting in regressive metamorphosis, or of regressive metamorphosis primarily, there is nothing surprising in the fact that the retina, as a part of the cortex cerebri, should participate in such inflammation or degeneration. According to this reasoning any affection of the retina must awaken suspicion of disease of the cerebral cortex.

In marked contradiction to the results of some other authors, Klein found among the cases of progressive paralysis only two with atrophy of the opticus, and other two with bluish discoloration of the disc, an indication that implication of the medullary substance is rare in this disease. On the other hand, in epilepsy, the opticus was found twice as frequently involved as in general paralysis, the retina rarely affected,

so that in this respect a contrast may be drawn between the two diseases. In one case observation during an epileptic attack showed ischaemia of the retinal vessels and clonic spasm of the pupil.

For the differential diagnosis between general paralysis and chronic alcoholismus, very difficult in some cases, the ophthalmoscope gave no assistance.

(To be concluded.)

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.¹

C. W. SWAN, M. D., SECRETARY.

DR. CHADWICK remarked that it would seem to depend greatly upon the size of the children. In the hypothetical case just given he would favor a resort to version as the most feasible means of delivery.

DR. ARNOLD mentioned a case of twins with shoulder and arm presentation, the arm protruding from the vulva.

Ante-Partum Hour-Glass Contraction of the Uterus. — DR. HOSMER reported the case, which he had seen in consultation. The patient was a primipara, short, stout, and thirty years of age. She had passed her full time, had been in labor seventy hours when Dr. Hosmer was called, at ten or eleven o'clock P. M. At this time the pains were less frequent and strong than they had been; the general condition was fair. The forceps had been tried. The pelvis was narrow, the pubic arch contracted, and the promontory of the sacrum very much advanced. The occiput lay towards the right acetabulum and thrown very far forwards over the pubic bones, the head forming a prominent mass externally. The os was well dilated and out of the way; the parts moist and of good temperature. Another attempt was made with the forceps. They were got on without much delay, but slipped off posteriorly, the forward position of the head — anterior to the axis of the superior strait — preventing an equatorial application. Next, version was attempted. The hand was carried up with difficulty; the left foot was seized and brought into the vagina. No force thus applied could change the position of the child. A loop of tape was then passed around the limb, and traction strongly made with it until the yielding of the tissues compelled an abandonment. Then the head was opened and emptied of its contents, and the forceps applied to the diminished mass, but neither this nor traction on the head by the ordinary instruments resulted in the least progress. It was next determined to seize the other foot, in process of which an unexpected difficulty presented itself. A powerful uterine constriction was discovered. The ether, under the moderate influence of which the patient had hitherto remained, was now pushed to its utmost. The hand was carried up gently, steadily, perseveringly, and the pelvis of the child was found firmly grasped by a powerful uterine constriction sharp and distinct, with well-defined edge, in the cavity beyond which the right foot was reached with difficulty. After a prolonged effort this foot was

¹ Concluded from page 424.

brought down to the rim of the pelvis, but could be got no further. A loop of strong tape was then carried up over the hand and made fast to the leg; after a considerable time version was at length accomplished, and a female child, weighing six or seven pounds, was delivered. The woman died seventy-two hours afterwards.

Dr. Hosmer stated in addition, in answer to questions, that he did not observe whether it was possible to detect the constriction externally. This condition was not discovered in the search for the first foot, which lay below it. Traction was made at right angles to the plane of the superior strait. Dr. Hosmer stated that he had never before met with an ante-partum hour-glass contraction.

Dr. FIFIELD said he had frequently been unable to deliver by traction in the direction of the axis of the superior strait, while he had succeeded very easily with a forward traction, making the occiput slide along the pubic surface, and he had practically adopted this method.

Dr. Hosmer remarked in reply to questions that the antero-posterior diameter was narrow and the head was resting on the top of the pubis. He thought that the only possible objection to turning in such case was the risk of injury from the sharp edges of the cranial bones. He would say that in the case of version resorted to after an unsuccessful craniotomy, the risk of damage from the edges of the cranial bones is so small that it practically amounts to nothing by reason of the protection afforded by the scalp, and it certainly could be determined beforehand whether there were in the artificial foramen any projecting point or angle which would expose the soft tissues of the mother to laceration and injury.

Dr. SINCLAIR said that he had had a case similar to that of Dr. Minot, — the corrected report of which not having been received is for the present omitted from the record, — with the same result. The chief difficulty in the way of turning was the rigidity of the uterus. The trailing scalp covered the bones sufficiently well. The patient, however, had become exhausted at the time of his arrival, and died soon after delivery.

Dr. ARNOLD related a case of which he was reminded by that reported by Dr. Hosmer, in which death occurred at the third confinement. The first labor, four years previous, was very tedious; ether was employed, and the pains were apparently good, but there was no advancement. The forceps were applied, but the head, which was at the superior strait, could not be displaced. Dr. Arnold then proceeded to turn, and found high up a constriction in the form of a large, firm band, beyond which were the pelvis and lower extremities of the child. It was with a good deal of difficulty that the hand could be got beyond this constriction, which then almost paralyzed the hand in its firm grasp. After a long time the feet were brought down, and there was then trouble in turning, but this was ultimately accomplished, and the child was delivered.

At the second confinement, on the attempt being made to turn by the feet the same contraction was found, but the result was finally successful, as before.

On the third occasion there were proper pains and full dilatation, yet no progress.

Dr. FIFIELD asked what, in the opinion of members, was the best form of

instrument for crushing the bones of the skull together. He had never used anything but the crotchet, and his objection to that offered for sale in the shops was that the hook is very blunt, and the shaft too semicircular in outline, whereas there should be a reversed curve forwards of the shaft, so that the crotchet can enter the bone and hold. The cephalotribe and cranioclast are said to be superseded; he would ask, by what?

DR. RICHARDSON said that the cranioclast, whose blades both curve in the same direction and are in continuous contact when closed, was intended to grasp with one blade external the other internal to the cranium, and was therefore a simple tractor; the cephalotribe, grasping with both blades external and with opposed curves, was both tractor and crusher; while a third instrument is tractor, crusher, and cutter. The first is preferable, as allowing the head to mold itself to the parts; the second is objectionable, since compression in one direction causes expansion in the opposite; while the third instrument is open not only to the objection stated, but to the additional one of risking the firmness of the hold by its cutting property. The internal blade of the cranioclast should be introduced through the opening made with a trephine.

DR. SINCLAIR described as follows the cephalotribe he was in the habit of using, and which he obtained in Edinburgh in 1868; he believes it to be a modification of Simpson and Martin's instruments by a Dr. Charles. It is essentially English in its construction as compared with the continental. It has two double-curved blades, fenestrated at the distal end to the extent of one third the length of the blades, and serrated on the inner aspects. It locks by means of a button and groove, like some midwifery forceps. The handles are covered with wood, with short projections at the distal ends to facilitate traction, and are approximated by a powerful fine-threaded screw.

DR. CHADWICK said that the cephalotribe was liable to force the bones of the cranium through the scalp, thus endangering the maternal surfaces.

Prolapse of the Cord; Restoration. — DR. ABBOT stated that he had once succeeded in returning a prolapsed cord in the manner detailed by Dr. Minot at the previous meeting. The case was one in which there was a large amount of liquor amnii, and when the membranes were ruptured the rush of this fluid brought down a handful of the cord into the vagina. He had little difficulty in replacing the whole of it with his hand within the uterus, and keeping it there until the contraction of that organ was sufficient to bring down the head, so as to prevent a repetition of the prolapse, the patient lying on her back.

Peri-Uterine Abscess; Hematocele; Rupture of Abscess into Pelvic Cavity; Peritonitis; Death. — DR. SINCLAIR read the account from notes prepared by Dr. Damon, in whose practice the case occurred.

December 7, 1873, one P. M. Mrs. N. J. F., aged twenty-three years, mother of two living children, has been treated for rheumatism by an irregular practitioner during the past few days. Has taken potassium acetate. About three weeks ago had some pain low down in right side of abdomen. Wet feet three days before. Since then has had pain in abdomen down to pubes. Is distended by flatulence; no appetite for three days; retention of urine for three days, or suppression; white fur on tongue; pulse 116; singultus, and sudden attacks of flatulent colic; insomnia.

R̄ Elixir potassii bromidi ʒ ij. nocte.
R̄ Willow charcoal q. s.
R̄ Tinct. opii deodoratæ gtt. xx in aq. t. d.
R̄ Lime water and milk.

December 8th, 9.30 A. M. Took only two teaspoonfuls of elixir and ten drops of opiate three times. Awake all night; distended by flatus. Pulse 112; skin natural; white fur on tongue; pain in abdomen; frequent eructations; no dejection for two days, then small and from injection; scybala; passed urine this morning. To have one fourth of a grain of sulphate of morphia on tongue.

11.30 P. M. Pulse 88. Skin cool and moist. Has had three soap-suds injections, and three thick, semi-solid discharges. Took twenty drops of deodorated tincture of opium at eleven A. M. and six P. M. Tongue is red at tip and with white fur near base. "Dreadful pain" in epigastrium. Face moist and cool. Nausea. Has drunk considerable quantity of water and vomited. Hands of a dull red or scarlet color, extending up wrists. Legs cool and moist. To have aromatic spirits of ammonia as occasion requires.

December 9th, 12.17 A. M. Singultus. Sinapism to epigastrium.

One A. M. Pain severe. To have one fourth of a grain of sulphate of morphia on tongue.

12.30 P. M. Temperature of axilla $98\frac{1}{2}^{\circ}$; of hand $96\frac{1}{2}^{\circ}$.

9.30 P. M. Pulse 108. No pain. Takes beef tea and ale. Less flatulence

December 10th, 12.45 P. M. Pulse 112, irregular. Respirations 28.

5.30 P. M. Pulse 120. Respirations 32, irregular and sighing. Eyes upturned. Gave injection of beef tea and brandy. Patient died December 11th, two A. M.

Post-mortem examination the same evening. Nearly eight quarts of serous fluid in abdominal cavity, recent. Hæmatocele of right ovary, size of English walnut. Clot of blood. Opening into pelvic cavity, posterior and to right of uterus, admitting two fingers. Remains of an abscess containing some greenish pus. An ounce or more of pus in pelvic cavity. Interior of pelvis red and vascular. Puncture through fundus of bladder which would admit of the passage of a No. 9 catheter.

Previous to Dr. Damon's attendance a No. 9 catheter was passed with the wire in, followed by severe pain and a wine-glass or two of clear blood. He was not informed of the fact until the puncture was discovered

The pelvic abscess had probably existed three or four weeks at least. Peritonitis appears to have begun about six days previous to death. The abscess in this case was in the cellular tissue lying below the broad ligament.

Labor complicated by Cancer of the Cervix Uteri. — DR. FIFIELD reported the case. The patient came into his hands in consultation, after having been in labor forty-eight hours. At this time there had been no effective pains, but they were beginning to increase. The os was of the size of a quarter of a dollar, ragged, ulcerated, fungous, and bleeding, the cancerous growth extending to the rectum. The waters had drained off. The forceps were applied and, with slight traction, a living child was delivered. There followed a jet of arterial blood, which, however, soon ceased. The placenta followed naturally. Both the mother and child did well. Dr. Fifield remarked that Dr. Robert Lee relates a few such cases.

Criminal Abortion. — DR. FIFIELD stated that he had been called to a patient who had just miscarried at four months. He found the fetus, membranes, and placenta entire among the dirty clothes. The woman confessed that it had been done wholly by the use of the finger at two visits.

DR. LYMAN stated that he had seen two or three cases from an operator, who was said to have employed in them the finger alone.

DR. LYMAN reported the case of a young married woman, who had had one child, and who, while under treatment for uterine disease, was found to be pregnant again. The physician in attendance, in view of her bad condition of health, thought it best to induce miscarriage. When Dr. Lyman saw the patient, some days subsequently, he was told that the whole thing was over, and so, from the absence of symptoms and from vaginal examination, it appeared. Four days later he found her pulseless from loss of blood, and for twenty-four hours her condition was very critical. The placenta had not been removed. Dr. Lyman stated that he had never before seen hæmorrhage so copious so long after a supposed miscarriage, with absolutely no uncomfortable or suspicious symptoms in the interval. He thought that there was always something, on careful examination, to arouse suspicion in case the placenta had not come away.

DR. RICHARDSON mentioned the case of a patient who was seen at the out-patient department of the Massachusetts General Hospital. She was reported to have miscarried at four months, and in four or five days had been up and about. Two weeks later there was flowing, and this continued, with occasional intermissions, until she came to the hospital. An examination showed the placenta to be still retained. This was removed and the flowing ceased. The placenta had been retained about three months. It was shriveled up and rolled into a rounded mass.

DR. SINCLAIR asked whether in cases of postponed discharge of the placental mass the event generally occurred with a good deal of hæmorrhage. He said that it was always his custom to tell such patients that the delay made no difference; that the placental mass would come some time or other, and with hæmorrhage; and he gave instances in which the placenta had been delayed five, six, and eleven days with such result.

DR. ABBOT, *per contra*, gave the following case: A woman was recently admitted to his ward in the hospital who had miscarried six weeks before, and had continued to flow during the interval. She was very anæmic from loss of blood, and had been sent to the hospital under the impression that a portion of the placenta had not come away. No trace of it, however, could be detected. She was treated for hæmorrhage, which shortly ceased, and remained under observation for several weeks. No placenta came away.

DR. ARNOLD inquired of the members present what their feeling was as to the use of the placental forceps in removing detained masses, and stated that he had never seen any ill effects from the use of Loomis's forceps, of which he had had occasion to speak at a former meeting.

DR. SINCLAIR said he preferred the fingers, and plugging the vagina, repeatedly if necessary, the placenta being ultimately thrown out upon the tampon.

DR. BIXBY said, in reply, that he thought the instrument serviceable when the placenta did not adhere, but in many cases the forceps effected only fragmentary detachment, and in these the finger was better.

THE MEDICO-LEGAL SOCIETY.

WE announced some months ago that the medical examiners of Massachusetts were preparing to form a society with the above title, and we are happy to congratulate them on having accomplished their undertaking. The society was duly organized on October 1st. The regular members must belong to the State Medical Society, and we believe forty-four from about sixty have joined. Associate members, who have no vote, comprise the attorney-general and the district attorneys, and also "persons versed in medical, legal, or technical science." The discussions cannot, we think, fail to be both interesting and valuable, and we trust will have a good effect on our system of expert testimony which, now that the coroners have fallen, is one of our most crying abuses. The society, we understand, does not mean to confine itself to discussion, but to look after the conduct of the medical examiners, and to use all honorable influence to prevent the appointment of incapable or unworthy persons to fill such vacancies as may occur. There is a board of censors who constitute an election committee, and may bring charges against members for misbehavior.

The society contains excellent material, and we are glad that the examiners feel the necessity of keeping up their present standard. Let them remember that they have the eyes of the community upon them, and that all the respectable part of it trusts to them to make impossible any return of the abuses which disgraced their predecessors. Perpetual vigilance in such matters is necessary, as we believe we have remarked once or twice already.

THE SURVIVAL OF THE FITTEST.

THE *American Journal of the Medical Sciences* has reached the respectable age of fifty years. It is the continuation of the *Philadelphia Journal of the Medical and Physical Sciences*, established in 1820. The *Edinburgh Medical Journal* is the only one in our language now published that appeared before the last-mentioned date. The *Lancet* appeared in 1822. The Boston Medical and Surgical Journal began with its present name in 1828, only a few months after our Philadelphia contemporary, being formed by the fusion of the *New England Journal of Medicine and Surgery* (started in 1812) with the *Boston Medical Intelligencer*. The *London Medical Gazette*, which about twenty-five years later united with *The Times*, began in December, 1827. We have nothing to say of our own merits; we leave self-praise to those cheaper journals that must choose between it or none, but we may say of our above-mentioned contemporaries that they are a striking illustration of the law that we placed at the head of these remarks.

The American Journal of the Medical Sciences, being a quarterly, has rather a different scope from any other in the country, and it is perhaps to this that its well-deserved success is largely due. It has no editorial department, does not have to discuss medical politics, and consequently devotes itself solely to the science and art of medicine. Appearing quarterly, it is not a rival of those journals that are published more frequently. It is universally acknowledged to be the leading American medical journal, and in our opinion is second to none in the language. The editor, Dr. Hays, may well feel proud of his work during the last half century. Until 1869, when his son was associated with him, he did the work alone. It is probable that in the future he may take a less active part in the management, but we trust that for many years he will continue to rejoice in the reputation which his editorial labors have won him.

THE MEDICAL SOCIETY PRIZE.

It appears that the committee on publications of the Massachusetts Medical Society has offered a prize of two hundred dollars for the competition of members. The essays must be sent to Dr. Shattuck on or before the 15th of next April, and are to show "original or meritorious professional work" done during the two years preceding that date. We are always glad to welcome a new prize, but it seems to us that the time allowed for this one is of the shortest. Perhaps the object of the committee is not so much to stimulate work as to bring out what is going on in the minds of members, for six months may be sufficient to complete investigation already begun and to arrange the conclusions. It must be a very young man who would have the courage and enthusiasm to begin now a fresh subject, and we fear he would stand little chance of success. If the idea of the committee is not what we have suggested we are quite at a loss to imagine why a longer notice was not given. Should the prize be won by some paper of exceptional merit, the wisdom of the plan will be apparent as showing in a striking manner of what excellent material the society is composed. We trust this may be the result.

MEDICAL NOTES.

— For some surgical purposes, Dr. W. M. Chamberlain recommends in *The Medical Record* for September 29, 1877, the use of gutta-percha tissue, which is now made in sheets about a yard wide, and as thin as fine French writing paper. It is unaffected by the heat of the body, but softens at a somewhat higher temperature. It is insoluble in water, but soluble in ether, chloroform, and alcohol. Dr. Chamberlain advocates its employment as a substitute for plasters of all kinds in wounds or lesions of the hands. For instance, a cut upon the finger may be treated by winding smoothly a narrow ribbon of the tissue around it. A lighted match passed just above its surface will seal the band by fusion and leave a neat, light, clean, and impervious cover to the wound. So if a broad patch of abraded skin is to be shielded from the air, a

piece of the tissue somewhat larger is laid upon it and sealed in position by tracing the margin with a camel's-hair pencil dipped in chloroform.

— *The Clinic* takes from a German exchange the following account of the so-called swallowing of the tongue, which, as it remarks, had for a long time disappeared from the medical stage. The author revives it, as follows:—

A lady from Crefeld told him she had seen twenty cases, and he obtained further information from Dr. Schneider, of Crefeld. His own son, aged four months, strong, suffering with a slight whooping-cough without complications, died suddenly in the lap of the nurse with symptoms of asphyxia. Ten minutes after death he found the tongue pressed upwards, and the end fast in the throat.

A few days later a second case came under his notice, and again in a child suffering with whooping-cough that in a similar manner died of suffocation.

Dr. Seydeler, of Bromburg, relates a third case, in which a child eight days old took a few drops of tincture of rhubarb; scarcely had it taken the medicine when it was seized with a violent attack of suffocation. It was saved by instantly drawing the tongue forward. In this case the tip of the tongue was not driven back, and Dr. Seydeler was of opinion that the tongue had simply sunk backwards, probably because the child when it took the medicine had violently withdrawn its tongue.

Such an occurrence is perhaps possible, but we think we shall hardly accept the twenty cases mentioned by the "lady from Crefeld" without further details.

— *The Lancet* states that an important report from the British consul-general at Algiers has recently been published, relative to the growth of the *Eucalyptus globulus* in Northwest Africa. The evil consequences that followed the destruction of forests in the neighborhood of Tunis and Algeria have been the subject of serious concern, and it is found that the planting of the *Eucalyptus* is the best practical remedy. The tree grows quickly, and attains in Algeria in six or seven years the dimensions of an oak of twenty years' growth, producing at the same time hard, dense timber, — so dense indeed that, until properly seasoned, it sinks even in salt water. Marked improvement has taken place in the sanitary surroundings since these trees were planted. They appear to destroy the miasma by absorbing the moisture of the soil, and so assisting to drain the marshes. More than one hundred thousand *Eucalyptus*-trees have been planted in two years by the managers of the Mokta-el-Hadid iron mines, the result of which is that their workmen can live at the place all the year round.

— With the view to legislation on baby-farming, the Prussian government, says the *Medical Examiner*, has been collecting official information, through the provincial governors and others, as to the character of foster-mothers and the number of children under their care. The facts thus collected reveal a horrible state of neglect, cruelty, and even murder by those whose profession it is to take under their charge illegitimate children. The proposed legislative measure embodies, *inter alia*, restrictions to the following effect, namely: No woman will be allowed to take charge of a child under six years of age during the parent's life, except with the sanction of the police authorities of the

district in which the parent resides. At any time the police license is liable to revocation. Persons licensed to undertake the care of such children are compelled to grant official inspection at any time in regard to the condition, system of diet, and training of the children under their guardianship.

— It is reported that Dr. Matthews Duncan, of Edinburgh, has consented to accept the post of obstetric physician to St. Bartholomew's Hospital, in London. He is said to have been always extremely popular with his Edinburgh classes.

BOSTON CITY HOSPITAL.

MEDICAL CASES OF DR. O. W. DOE.

[REPORTED BY E. O. OTIS.]

CASE I. *Herpes Zoster treated by Chloroform Injections.*—M. J. O'N., twenty-three years old, entered the hospital July 23d with the following history: Ten days before, he began to be annoyed with pain in the chest about both nipples. In the course of a few days he noticed an eruption on the right side, which continued up to entrance. At that time the pain, severe in character, was mostly confined to the seat of eruption, extending across the axilla up to the right shoulder and down the arm towards the elbow. Appetite and digestion were good. Bowels and micturition were normal. Pulse 96. Temperature 100°. An injection of fifteen minims of chloroform was ordered night and morning, locally in the affected side. After two or three injections the pain was entirely relieved, and remained so, while the eruption, which was a well-marked type of herpes zoster, left to itself, healed rapidly, and the patient was discharged well, August 1st.

CASE II. *Acute Bright's Disease, with Severe Uræmic Convulsions; Recovery.*—P. McN., of medium size and stoutly built, a laborer, thirty-three years old, entered the hospital July 13th. He said he was always a very strong man, and that he was perfectly well up to the evening of the 8th, when he noticed swelling of the face and feet, and was attacked with diarrhœa and pain in the upper abdomen. At the time of entrance there was quite general anasarca, and for the previous twenty-four hours there had been a heavy pain in his forehead. He slept well, and felt "as strong as ever." Appetite good. Bowels regular. Micturition free.

The patient said he had been accustomed to use alcoholic liquors freely, but stopped two weeks ago, and just previous to his entrance he worked thirty-six hours in the hold of a vessel. At the time of entrance his pulse was 70. Face flushed and swollen. Eyes reddened and suffused. Tongue with thin white coat.

The examination of his urine gave the following result: Specific gravity 1023. Albumen two per cent. Hyaline and epithelial casts, with a few blood corpuscles. He was given fifteen drops of the tincture of digitalis three times a day.

July 16th. The patient reports himself as feeling "as well as ever," and appetite "first-rate." There is now only a little swelling about the eyes, and none of the extremities.

July 19th. The urine was again examined, with the following result: Specific gravity 1022. Albumen two per cent. Fine granular and hyaline casts. A few blood and pus cells.

July 20th. The house physician was called about three A. M., and found the patient in a semi-comatose condition, having had previously two severe uræmic convulsions. One sixth of a grain of nitrite of pilocarpine was injected subcutaneously, and in the course of ten or fifteen minutes quite free diaphoresis was produced. Hot cloths and flannel blankets were applied. In a short time the convulsions returned and continued during the day. At the time of the morning visit — about half past ten o'clock — he was put under the influence of ether, and kept so the greater part of the day. Pulse was 100; pupils contracted; had passed urine twice since eight o'clock, eight ounces in quantity. He was given of the following mixture half an ounce every two hours: —

R̄ Potassii citratis	3 i.
Tr. digitalis	3 iiss.
Aquæ	ad 3 viij. M.

Also one fifth of a grain of elaterium. A hot poultice was applied across the loins.

July 21st. Pulse 72. Answers questions; says he is better. Two mild convulsions during the night. Passed about twenty ounces of urine since yesterday. Omit prescription of the 13th. The patient was ordered to be put in a hot bath, and placed in blankets for two hours. Examination of the urine gave the following result: Specific gravity 1023. Albumen two per cent. Pus and squamous epithelium. No casts.

July 22d. No swelling anywhere. Bowels and micturition free. On alternate days give hot bath and wrap in blankets for two hours.

July 23d. Three convulsions since the last visit. Pulse 60. Sweating profusely. Mind clear. Passed thirty ounces of urine at one time yesterday. Ordered one fifth of a grain of elaterium.

July 25th. Examination of urine: Specific gravity 1021. Urea normal. Albumen three fourths of one per cent. No casts.

July 28th. Patient up and about the ward. No return of convulsions.

July 31st. Examination of urine: Specific gravity 1020. Albumen one per cent.

August 2d. Appears well the last two or three days. Passed sixty-four ounces of urine in twenty-four hours.

August 3d. Give the hot baths every other day.

August 7th, 9th, 11th, and 14th. The examinations of the urine were as follows: 7th. Albumen one fourth of one per cent. No casts. 9th. Albumen one and one half per cent. No casts. 11th. Albumen one half of one per cent. Specific gravity 1030. 14th. Albumen a trace. Specific gravity 1020. On the 14th he was discharged, saying he felt perfectly well and wanted to go to work.

CASE III. *Chorea treated by Chloral Suppositories and Valerianate of Zinc.* — M. B., domestic, twenty years old, was discharged from the hospital, well, on the 4th of April, after confinement. She reëntered on the 15th of May with the following history: About a week before, she began to have twitchings of the muscles of the left side; the muscles of the face contracting

and relaxing caused great distortion, while the arm and leg would be thrown into all sorts of positions. These motions seemed to be excited by contact with others, and whenever attention was directed towards her. There was no assignable cause for the beginning of this condition. On entrance, the pupil of the right eye was larger than that of the left; she was unable to protrude her tongue, and could not articulate distinctly. She understood what was said to her, and tried to answer intelligently. Appetite fair. Bowels regular. Skin natural. Tongue pasty. Temperature 98.5°. Pulse 90.

May 16th. Says she has not slept much until this morning, though thirty grains of bromide of potash was ordered last night. Ordered five grains of citrate of iron and quinine three times daily.

May 17th. Last night had an attack of acute maniacal excitement, so severe that she had to be confined in a camisole; this morning delirium gone, and only choreic symptoms present. Ordered twenty grains of bromide of potassium morning and night.

May 22d. Omit prescription of the 16th and give five drops of liquor of arseniate of potash three times daily.

May 27th. No essential change in the condition of the patient. Choreic movements of the left side still continue. Complains of nausea and vomiting. Omit prescription of the 22d in consequence. Ether spray to be applied to the spine for fifteen minutes morning and night.

June 1st. Patient in about the same condition; no marked improvement. Omit ether spray. Ordered twenty grains of chloral hydrate at night.

June 2d. Slept well last night; repeat the chloral to-night.

June 4th. Jactitations less violent; sleeps pretty quietly at night. Repeat chloral every night.

June 11th. Much improvement noticed. Movements much diminished. Very quiet at time of visit.

R^x Chloral hydrate grs. x.

Olei theobromæ q. s.

M. Ft. suppositorium N. i.

Sig. One suppository to be used morning and night.

June 14th. Patient worse than on the 11th; unable to stand without help. Continue suppository. Ordered two grains of valerianate of zinc three times daily.

June 18th. More quiet for the last three days; more rational.

June 20th. Marked improvement in the last two days. Walks about the ward with scarcely any movements of chorea. Perfectly rational, and wants to go out. Give the suppository only at night.

July 9th. No symptoms of chorea. Ordered half an ounce of compound tincture of cinchona three times daily.

July 20th. Discharged, nearly well.

CASE IV. *Pelvic Cellulitis, with Serous Evacuation.* — S. W., twenty-seven years old, married, entered the hospital June 30th, with the following history: Three weeks before, she took a cold bath just before the catamenia had ceased, and since that time had had griping pains, lasting about a minute, after micturition, which was frequent. These pains she located in the left inguinal region. Catamenia have always been regular, and not attended with much pain

or flowing, lasting usually about three days. At the time of entrance the temperature was 100.5° , and pulse 120. The examination of the urine showed nothing abnormal. There was marked tenderness just to the left of the hypogastrium, accompanied with swelling and pain. Hot vaginal douche and starch poultice, as hot as could be borne, were ordered.

July 2d. Over left inguinal region is felt a hard, distinct mass, extending up to a line parallel with the anterior superior spinous process of the ilium. Marked tenderness on pressure. Tenderness is also felt in the median line and right inguinal fossa, where there is a sense of resistance, felt to be more marked at the centre.

On vaginal examination a hard, distinct mass was felt filling up the space to the left of the uterus, evidently the same which was felt by external examination. To the right of the fundus was also felt a small indurated mass, high up, which is quite sensitive on pressure, more so than that on the left side. Os low in the vagina. Cervix immovable. Fundus, from the anterior wall of the vagina, slightly sensitive on pressure; markedly so on the posterior wall. Sound passes two and three fifths inches. Patient passes urine with ease, but there follows a sharp pain across the hypogastric region, continuing about a minute. Bowels moved about once in three days, causing great pain, which lasts but a few moments. To remain in bed. Hot vaginal douche night and morning. Hypogastric and inguinal regions to be painted night and morning with ethereal tincture of iodine. Every other night a tampon to be inserted in the left cul-de-sac, soaked in the following:—

R̄ Potassii iodidi	grs. xx.
Glycerinæ	3i. M.

July 4th. Induration on the left side as before, but slightly less on the right side, and more tender on pressure. Ordered one drachm of ferrated tincture of cinchona three times daily.

July 7th. The mass on the left side is very much enlarged, filling the left and posterior part of the pelvic cavity, pressing deeply down and back upon the rectum. It is very sensitive to touch, and has an indistinct sense of fluctuation just posterior and to the left of the cervix, where an aspirator needle was introduced and three ounces and a half of serous fluid withdrawn. Hot flaxseed poultice was applied externally, and one eighth of a grain of morphia, as occasion required, to relieve pain. For three days after this the temperature ranged from 99° to 101° .

July 11th. Morning temperature 98.6° ; pulse 104. Evening temperature 100° ; pulse 102. Indurated mass externally now felt on the left, two inches below the umbilicus, hard and resisting. On vaginal examination enlargement not so low as at last report, but occupying a larger space on the right side, and felt posterior to the uterus in connection with the mass on the left. On rectal examination a very small, soft, semi-fluid mass is felt at the most dependent part of the tumor posteriorly. But little pain on examination. Patient generally improving. Considerable distress at time of defæcation.

July 12th. Omit the prescription of the 4th and give

R̄ Ferri et quiniæ citratis	grs. vii.
Vini xerici	3 ss. M.

three times daily.

July 19th. Very slight tenderness only in the right iliac region. No swelling noticed externally in either inguinal region. May sit up an hour every day.

July 22d. The only induration remaining is on the left side and posteriorly. Scarcely any tenderness on examination.

July 27th. Patient sitting up. No pain in pelvic region. Bowels regular. Very anæmic. Omit prescription of the 12th and give thirty drops of tincture of chloride of iron three times a day.

August 1st. The mass spoken of on the 22d is rapidly disappearing.

August 11th. Very slight induration remaining. General condition much improved. No pain.

On the 17th she was discharged, well.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING OCTOBER 6, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	513	24.76	27.46
Philadelphia	850,856	256	15.65	22.88
Brooklyn	527,830	203	19.99	24.31
Chicago	420,000	142	17.58	20.41
Boston	363,940	151	21.58	23.39
Providence	103,000	36	18.17	18.34
Worcester	52,977	20	19.63	22.00
Lowell	53,678	21	20.34	22.21
Cambridge	51,572	27	27.22	20.54
Fall River	50,372	21	21.68	22.04
Lawrence	37,626	13	17.96	23.32
Lynn	34,524	16	24.09	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	10	19.45	23.57

BOOKS AND PAMPHLETS RECEIVED. — A Treatise on the Pathology of the Urine, including a Complete Guide to its Analysis. By J. L. W. Thudicum, M. D. Second Edition. Philadelphia: Lindsay and Blakiston. 1877. (For sale by A. Williams & Co.)

Personal Appearance and the Culture of Beauty, with Hints as to Character. By T. S. Sozinskey, M. D. Philadelphia: Allen, Lane, & Scott. 1877.

The Physiology of Mind. The First Part of a Third Edition. By Henry Maudsley, M. D. New York: D. Appleton & Co. 1877. (For sale by A. Williams & Co.)

Thirty-Fifth Report to the Legislature of Massachusetts, relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the Year ending December 31, 1876. With Editorial Remarks by F. W. Draper, M. D. 1877.

The Sanitary Condition of Portland. A Report presented to the Maine Medical Association, by F. H. Gerrish, M. D. Portland. 1877.

Respiration of Compressed and Rarefied Air in Pulmonary Diseases. By F. H. Davis, M. D., of Chicago. (Reprinted from the Chicago Medical Journal and Examiner, October, 1877.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, OCTOBER 25, 1877. — NO. 17.

INJURY RESULTING FROM ELECTRICAL TREATMENT.¹

BY D. F. LINCOLN, M. D.

I HAVE been led to select this topic by observing, oftener than I think could be due to mere coincidence, some evil effects from the application of electricity. I conceive that it is very important to warn practitioners of this possible danger, and to explain its source.

Electricity does not act alike upon all persons. In this it resembles many other nerve remedies, and even articles of diet, as spirit, tea, coffee, and tobacco, which in certain individuals produce apparently opposite effects from those regarded as normal. The closest and most intelligible analogon of this fact is found in the effect of a cold bath. Most persons are exhilarated; a few seem to be capable of bearing an indefinite amount, while others are chilled or prostrated for days by a single plunge. A sense of exhilaration is, in like manner, a very common attendant upon the electrical treatment; but some never feel it, others feel it irregularly, and others cannot bear the least amount without apparent injury. Another point in which bathing resembles the electrical treatment is the frequency with which sleep is produced. Sometimes a patient is hardly able to get out of the room for drowsiness; at other times the feeling comes on an hour or two later; it were greatly to be desired that this effect could be so managed as occur at the right time for sleep, but I am doubtful whether this can be accomplished with any certainty. The hypnotic action of electricity, however, is certainly of value.

It would be possible to explain all the actions of electricity by the simple word, "stimulation." I am not aware that there is any evidence that electricity acts like tea and alcohol, by arresting waste and supplying material for consumption. On the contrary, it seems to me, from clinical observation, that its action rather resembles that of alteratives which increase elimination, and that, like these, its use protracted beyond a certain point may rapidly run down the system. And this effect may be produced at the same time that each individual application gives a sense of relief or of increased vigor, which, though

¹ Read before the Boston Society for Medical Observation, October 1, 1877.

brief and soon replaced by lassitude, is so decided while it lasts as to tempt both physician and patient beyond the limits of prudence. It is this result that physicians should be warned against. There is, also, a temptation to try large doses where small ones do not succeed, and it must be confessed that respectable authority for such practices is not wanting.

Although there are few direct warnings in text-books, there is a rule laid down for practical guidance which amounts to the same thing. We are advised, in brief, to give but one or two dozen applications, and then to wait for a month or two in the expectation that the curative process, once commenced, may go on of itself in the interval. This may be a correct view to take, but I should like to add that the long pause may be simply a necessity in order to enable the constitution to recuperate its forces.

There is a popular notion that we merely pour in electricity as water is poured into a flower-pot, and the question is often asked whether the electricity remains permanently in the system, or how long it remains. To a scientific mind this is simply nonsense, but it is a view which is capable of doing harm if the physician imagines that his object is to fill his patients full of electricity.

A very large number of cases are *not* harmed, however, and I wish to illustrate this from the records of a former private dispensary for nervous diseases. Of one hundred and eighty cases treated there in succession many came but once, many were in no need of electricity, and many had a mixed treatment; but there were twenty-nine instances of decided benefit or cure through the use of electricity, and none of injury from its effects. As regards the diseases most often treated it will be instructive for us to go briefly through this list of cases benefited. I give them without classification: —

Shock to spinal cord from fall on occiput; debility, pain, and stiffness; cure.

Lead palsy, nearly cured.

Strain of aponeurosis and weakness, immediate great relief.

Rheumatism of biceps and trapezius, ditto.

Tremor of hand (aged fifty), direct relief to tremor and pain at each application.

Lead paralysis, improved.

Hemiplegia, hand decidedly improved.

Paresis of hand from confinement after a dislocation, decided immediate improvement.

Myalgia, came twice, reported "much better."

Myalgia, decided permanent relief.

Myalgia, twice faradized, with immediate improvement; a third time, said she was well, and very thankful.

Myalgia, faradized with temporary relief.

Torticollis, apparent temporary gain, but always relapsed.

Myalgia, faradized with immediate relief.

Muscular debility from disuse after a blow and pain, entire relief.

Asthenia and myalgia, greatly improved.

Paresis of the fracture, ditto.

Myalgia and irritable spine, much permanent relief.

Debility from onanism, immediate improvement in feelings, and apparent vigor for a day or two after each application.

Myalgia, immediate benefit.

Eczema, ditto, from one application.

Insomnia, dull and queer feelings in head from overwork at music, faradized once, felt better for a fortnight.

Myalgia and feebleness resulting from a strain, one application, decided relief.

Peripheral palsy, relief.

Cutaneous anæsthesia of fingers, patient says she is better each time.

Myalgia, three cases, relieved more or less.

To illustrate the injury sometimes done by electricity, I beg to present the outlines of five cases from my own practice, which are all that I can find distinctly recorded:—

CASE I. *Rheumatic Arthritis in a Lady aged Fifty-Five.*—There is a decided predisposition to this complaint in the patient's family; in her own case it has existed for a great many years, and has made considerable progress in the knuckles and knees.

The usual galvanic treatment directed to the painful spots, and also to the spinal cord, appeared on the second application to remove the pain directly, and to impart a sense of increased vigor of body, which was frequently experienced in subsequent applications. The treatment was applied two or three times a week for twenty times in all. But after perhaps the tenth time, I began to treat the knees locally, with occasional use of the application to the stomach and nape of neck as directed by Althaus. The former success, which had been extremely encouraging for two or three weeks, now became less marked. The pain, which had not been very severe, was violent, the knees became distended, hot, and red, and, in short, a regular attack or exacerbation of the disease occurred, which cut short the electrical treatment. Whether the electricity brought on the attack is not absolutely certain, but it appears to me that it may reasonably be thought to have done so; and in any case I should in future be cautious about continuing treatment if any signs of exacerbation appeared during the course of my operations.

CASE II. *Spinal Exhaustion in a Business Man of Thirty-Three, otherwise Healthy.*—There is no neurotic or rheumatic family history.

When young, the patient had headaches, but they have been better within a year. He has had no bad habits. He is not naturally very enduring, but has average strength. At the present time he has a good appetite; his appearance is that of a man of fine physique; his form is good, his muscles clean and handsome, reacting with unusual readiness to the faradic current, though he has never practiced gymnastics. The present debility has been coming on very gradually; he ascribes it to the close confinement and the mental annoyance which attended his business for nine years. He has now been out of business for ten months. He sleeps well, but wakes without a sense of refreshment. A slight exertion, such as talking for twenty minutes, is followed by a feeling of exhaustion. He can walk ten minutes, but this exercise, or driving, and, still more, riding, gives him a pain in the small of the back and higher up. He has no sexual desire at present; the sexual act used to exhaust him for days or weeks. Erections are frequent, nightly emissions rare. He has been taking phosphorus.

A moderate application of a descending galvanic current to the spine and (by stroking) to the inguinal region, was followed on the evening and night of the same day by considerable nervousness. The next day faradic treatment of the muscles was commenced and continued every other day for six times, when it became necessary to give oxide of zinc to relieve a restlessness and sleeplessness to which he never was subject until within ten days. There was no decided relief to the pain in the back.

Galvanization in the ascending direction, applied to the spine and sympathetic and scrobiculus cordis, was then practiced several times, when for some reason which I do not recall I tested his temperature. On two successive days it stood at $99\frac{1}{4}^{\circ}$ at three P. M., and at $99\frac{1}{2}^{\circ}$ at eight P. M.; next day 99° . Galvanism was suspended, and in a week his temperature stood at $97\frac{1}{2}^{\circ}$ and 98° . I do not know what to say to this phenomenon, but am clear that the patient grew to look somewhat worn and feeble at the close of the treatment, which was not severe. The nervous irritation and sleeplessness continued to trouble him as long as he received electrical treatment, and were not balanced by any good results whatever.

CASE III. *Muscular Rheumatism in a Man aged Thirty-Four, a Gardener.* — Exposure to wet while in the United States cavalry, from 1861 to 1865, caused occasional spasmodic pain in shoulders and neck; since then overwork as a gardener, and afterwards in an occupation requiring him to lift very heavy weights. Pain has always troubled him since the war; it is confined to the muscles, chiefly those of the left arm and right hip, next those of the left hip, left calf, and right arm. Confined to house six months at one time, and for most of the past three months. Great want of muscular power, and flabbiness and atten-

uation of muscular tissue. General health otherwise good. Galvanic currents were applied very thoroughly to the spine and the seats of pain and weakness; improvement was very rapid, and in less than two months he was entirely free from pain and able to go about and make light muscular exertion.

About the same time, however, he became the victim of severe dyspepsia, with pain in the stomach after eating, increase in the axillary temperature, and great prostration of strength. He moved to Maine, and there I learned that he recovered in a short time. The prostration, however, while it lasted, was a little alarming. I am disposed to believe that it was the effect of an over-stimulation of the nervous system by electricity. I have, I think, observed an identical effect in a less degree in a very robust patient with local muscular rheumatism, who was cured of the latter complaint at the expense of a general exhaustion of the system, which was relieved temporarily by cod-liver oil and iodide of iron, and permanently by a change of air.

CASE IV. *Locomotor Ataxia in a Lady aged Forty-Nine, with Weakness, Pain, Twitching, and Numbness in both Legs and Feet, and to some Extent in Arms and Hands.* — The pain was of the usual neuralgic sort. Paralysis of external rectus of left eye. Incoördination marked. She was treated by galvanizing the spinal cord and the legs for two months, and later for a month more. The applications seemed in many cases to give direct relief, followed by an aggravation of the symptoms. Thus the first application, galvanism in interrupted shocks to the loins and muscles of the thigh and leg, gave immediate relief to the weakness, which lasted a day, when the tingling and twitching returned so strongly that the method of application was changed to that of galvanization without interruptions. Again there was a decided sense of increased strength, and again the tingling returned. The relief was so considerable that she was very desirous to continue the treatment; but it is certain that she was worse at the end than when she began, and from the circumstances narrated I believe the electricity did harm.

CASE V. *Muscular Pain and Weakness of Legs, of a Chronic Nature, in a Gentleman of Thirty.* — From boyhood he was very easily fatigued in walking, and often suffered pain afterwards. This he neglected, and for some years past has been a good deal disabled as respects active exertion, although his physical appearance is very good. The muscles are firm, but not so large as they should be; reaction to faradic current very good indeed.

The patient had consulted Weir Mitchell, who considered the case "an example of local tire and fatigue pain, arising out of over-use and precisely analogous to the painful cases of writer's palsy." He advised "an hour a day of systematic massage, an upward galvanic current from coccyx to cervical region of spine, and a daily use of induced cur-

rents applied locally to the muscles " for two or three months at least, with as much rest as possible.

Unfortunately, the patient was living out of town, and was unwilling to think of removing to the city at the time. I applied electricity to the leg muscles three times, in moderate strength, at intervals of three days. Each time the effect was so far injurious that the muscular pain was decidedly increased *on the day after the application*, and the last time it was quite severe, lasting two or three days. In my judgment a case of fatigue pain should be treated by rest in bed, using massage and electricity to keep up muscular nutrition, as taught by Mitchell himself; and the continuance of the daily habits of sitting about and occasionally walking a little or riding to town was totally inconsistent with the use of electrical stimulus in the case of this patient.

In analyzing these cases it seems to me that a general exhaustion, or at least an exhaustion of the spinal forces, furnished the chief element of injury. To this statement an exception is furnished by the first case, in which an attack of local arthritis supervened during electrical treatment. There are other cases in which the expression "local irritation" furnishes a more intelligible explanation of the mischief.

I wish to add to these cases a brief mention of certain other undesirable effects, which were, however, transitory in their nature: —

A very hysterical patient, who was cured of hysterical paralysis by a long and patient continuance in treatment, once went into a slight fit in my presence while undergoing the spinal application of galvanism. This did not occur again; in fact the application as made on that occasion was altogether too harsh.

The group of symptoms which includes giddiness, faintness, nausea or vomiting, disturbance of the circulation or respiration, and excessive drowsiness is familiar to all electrical practitioners. It is commonly thought, and I have been in the habit of saying, that these effects are absolutely to be avoided if possible. And yet I have seen a man suffering from mental fatigue and insomnia relieved to a considerable extent for a fortnight after an application to his head of the induced current, which made him very giddy and sick for five or ten minutes. A patient who had aural disease, with tinnitus and epileptiform attacks of dizziness, received by accident at his first visit an over-dose of galvanism (by local application to the ear). He became giddy and faint, and was unable to work the next day; but on the day following he reported that his tinnitus was gone. Subsequent treatment was quite successful in relieving the latter trouble, and not only so but the attacks of giddiness, which had been frequent, are recorded as absent for a fortnight after that first visit. From such experiences I am led to doubt whether these symptoms are to be regarded as indications that a given application of the current is absolutely doing harm rather than good.

Another effect of too concentrated galvanic currents is the production of superficial eschars, rather slow in healing. It is well to say to those who have had little experience that these may be produced in a few minutes, without any warning pain, in certain patients whose cutaneous perceptions are weakened.

It is undeniable that neuralgic affections are occasionally made worse by electricity. This may sometimes be due to the influence of imagination; sometimes it results from injudicious treatment of nerves while in a state of active congestion; and I suppose it may be caused by a simple excess of electrical stimulation. The latter statement is doubtless true of the muscles.

Benedikt, who treats his subject with a remarkably free hand, uses the following words:—

“The electric current is *contraindicated* in cases where, in spite of all precaution, it is not borne well: for instance, in a few cases of tabes and hysteria, where it provokes violent symptoms of irritation; in cerebral affections when symptoms of congestion appear; in inflammations of the joints in the stage of active congestion, when, in spite of the mildness of the application, the congestion increases, and no immediate relief appears. *An increase of the bad symptoms ought on no account to occur during the electrical treatments.* If it does occur the intensity, etc., must be modified. The so-called ‘crises’ must be abandoned to other pathologists. If bad effects appear in spite of the modification, then the case is either wholly unsuited for treatment, or at least is so for the time being.”¹

“If a patient is insensitive we may usually employ strong currents; we are almost driven to do so by the necessity for satisfying the patient. It is necessary to be very careful about the brain, a region where we can never exceed a certain intensity without incurring a risk; and the same is true of the sympathetic, where it is easy to produce either paralytic symptoms, as unilateral heat in the face and head, and burning pain, or else deep disturbances of nutrition.”²

“A general rule respecting the intensity of the current is that *painful currents are not only unnecessary but as a rule harmful.*³ Almost the only exception to this is the case of hysterical paralysis with hyperæsthesia; in these cases either painful currents must be employed, or the treatment must be applied under chloroform. . . . General excitement, convulsions, spasmodic tension of the muscles, giddiness, pain, paralysis, cerebral hæmorrhage, bleeding into the lungs or rectum, and severe metrorrhagia are frequent consequences of too painful currents.”⁴

¹ Electrotherapie, 1874, page 132.

² Page 125.

³ I may remark that I have cured a supraorbital neuralgia by very painful faradic currents without any bad symptoms. — D. F. L.

⁴ Page 124.

"Loss of teeth and blindness (Duchenne) are also symptoms which may result from too powerful electrical irritation of the face and head. . . . All these symptoms are no phantoms of *doctrinaire* imagination, but facts drawn from experience."

The somewhat violent symptoms which Benedikt ascribes to the effects of painful currents are largely due (as the reader will observe) to the very great effect which such applications may have upon the vaso-motor system. All kinds of electrical applications, however, are capable of influencing with great power the vaso-motor and secretory functions, and are more or less valuable as therapeutic agents in affections of these functions.

In concluding these brief notices, let me remark that, as far as I am able to judge, the harm that may be done by electricity mostly arises from the effects of over-stimulation, that is, exhaustion of the spinal or ganglionic systems.

A CASE OF ADDISON'S DISEASE.¹

BY C. ELLERY STEDMAN, M. D.,

Physician, Boston City Hospital.

IN an article on this disease published in *The American Journal of the Medical Sciences* for January, 1877, Dr. William Pepper states that only ten cases of Addison's disease are quoted from American sources in Greenhow's tables. I therefore desire to put on record the only case I have met with, although the notes are not so full as could be wished. The family attendant, an eclectic physician, now dead, kindly furnished me with an account of the symptoms noted before death.

On the 8th of August, 1869, I was asked to make an autopsy of Ida S., aged seventeen years, who died the day before. Her mother says that the patient's menses have been regular since she was thirteen years old. Her complexion began to grow dark a year before; others of the family think this date is placed too far back, but Mrs. S. insists that twelve months have passed since the change was noted. The girl's general health began at that time to fail, but so insidiously that she was not considered ill till five months previously. Just before that time I saw her while attending her grandfather for a railroad accident which proved fatal, but only noticed that she was darker than the rest of the family, and was not asked for advice. Early in March she showed a dark circle around the neck, which was supposed to be caused by some article of dress, and the discoloration began to be observed by others beside her mother. Along with this she began to be puffy under the eyelids in the morning, was easily fatigued and rendered breathless, had frequent nausea and vomiting, headache, backache, and "sideache."

¹ Read to the Dorchester Medical Club.

Her appetite became capricious, with craving for salt and acids ; the bowels were generally constipated, with occasional diarrhœa, languor, and sleepiness, and latterly hiccough. She had been up and about the house during this illness, and only a week before her death she walked out. It was not till the 3d of August that this practitioner was called to see her ; he was surprised by the discoloration of the skin, which was of the hue of a mulatto over the whole body, deepening almost to black in the folds of joints. She had pain and great tenderness in the lumbar region, increased by pressure ; the menses were present. The next day vomiting set in, and continued till three o'clock in the morning of the 6th, with relief to the pain in the back ; an enema produced a copious natural discharge. The thirst was insatiable. No tenderness of the epigastrium was observed, but great distress and distention before a fit of vomiting, which relieved it. There was no headache, but slight delirium ; no convulsions ; the breathing occasionally was stertorous. Twelve ounces of urine were passed, the constituents of which are not recorded. The region of the liver was flattened, not tender. Exhalations from the skin were fœtid, a very bad odor being constantly in the room ; there were no hæmorrhages.

August 6th. The vomiting, stopping at three A. M., recommenced at five, with constant nausea.

August 7th, eight A. M. Nausea ceased during the night, and the patient said she felt better ; tongue partly cleaned ; skin mottled and streaked. Slight trismus was noticed while her mouth was washed with cold water ; the conjunctivæ were congested ; there was slight delirium. Died at ten o'clock A. M.

Autopsy, August 8th, at 3.30 P. M., by Dr. Stedman. Color that of a light mulatto, having cleared very much since death. Body slight, but not emaciated. Lips livid, as if she had been eating mulberries. Mammary development very large for a young American girl ; areolæ almost black, and shining cracks in the skin of the breasts ; nipples very small and undeveloped ; otherwise the appearance of the breasts would have suggested pregnancy. Head not opened. Heart small and flabby, not fatty. Lungs crepitant throughout, but firmly glued to costal pleuræ and diaphragm by old adhesions. Stomach large and its walls thin. The coats of the intestines thin ; abdominal glands somewhat enlarged. Liver enlarged, flabby ; the right lobe looking fatty, adherent by its lower surface, requiring dissection to free it ; in doing this an abscess was cut into on either side ; these were seated in the supra-renal capsules, which adhered to the liver, were of firm texture, and the size of a man's thumb ; a cavity existed in each, holding a drachm of pus-like fluid, and the remaining substance looked like broken-down caseous matter. The uterus slightly anteflexed and virginal. Other organs were examined and found normal.

RECENT PROGRESS IN OPHTHALMOLOGY.¹

BY O. F. WADSWORTH, M. D.

Tuberculosis of the Conjunctiva. — Walb² observed tuberculosis of the conjunctiva in a child one and a half years old. The child fell and struck the left eye against a sharp corner, causing bleeding and swelling of the lids. The swelling passed off in the course of a week, but later the upper lid became thickened. Eight weeks after the injury there was vascular, uneven thickening of the conjunctiva of the upper lid, in which small, round, yellowish-white spots could be seen, and caseous ulceration near the outer commissure. The skin was sound, but a linear cicatrix could be felt in the tarsus. The lower lid conjunctiva was congested, and in it also were numerous lighter points. Near the left ear was a bunch of swollen, fluctuating glands, which had made its appearance after the conjunctival disease. Examination of a portion of the thickened conjunctiva showed a highly vascular connective-tissue growth in which typical miliary tubercles were imbedded. Under the use of caustics the whole disease regressed, and cicatricial shrinking took place.

There was here, according to Walb, from the original injury rupture of tarsus and conjunctiva without wound of the skin. The tarsus cicatrized, but the granulations in the conjunctival wound were invaded, under the influence of a constitutional predisposition, by miliary tubercles. This changed the character of the growth; the connective-tissue proliferation involved the surrounding healthy tissues, miliary tubercles developed with it, and in one place their degeneration gave rise to superficial ulceration. Development of tubercles also occurred in the lower lid, not in direct connection with the original affection, and the swollen glands near the ear showed that the neighboring lymph-vessels were infected.

Choroiditis Tuberculosa. — The disease formerly described as choroiditis tuberculosa is now admitted not to have been a tuberculosis, but a metastatic purulent choroiditis. In recent years numerous observations of miliary tubercles in the choroid as an accompaniment of general miliary tuberculosis have been published, but very few of tuberculous choroiditis (Manfredi, Poncet). The following case, in which Hirschberg³ had opportunity to make ophthalmoscopic examination, is therefore of special interest.

A man of twenty-seven years, sick with fever and headache, had suffered from a painful inflammation of the left eye for sixteen days. The right eye was normal. The left eye was a little pushed for-

¹ Concluded from page 450.² Klinische Monatsblatt für Augenheilkunde, August, 1877.³ Centralblatt für pract. Augenheilkunde, February, 1877.

ward, its movements good, the bulbar conjunctiva much swollen and congested, the media clear, except for a slight haziness of the cornea, and some remains of exudation at the edge of the pupil, which was circular and dilated by atropine. The appearance of the fundus was a very uncommon one. The outline of the papilla could not be made out; the retinal veins were excessively enlarged and winding, here and there accompanied by hæmorrhages. The greater part of the fundus which could be seen presented a diffuse, intense white coloration, evidently more from infiltration of the choroid than of the retina, whose vessels ran in front of the white infiltration. The eye was nearly blind. A few days later the chemosis was less, the retinal veins less swollen, and fingers could be counted upward. The improvement did not last; the man died, and at the autopsy was found a tubercular meningitis. Examination of the eye, by Dr. Weiss, showed an inflammatory infiltration of the choroid, spreading outward from the papilla, eight mm. in extent and three mm. in maximum thickness, in which were scattered tubercles, partly caseous.

Hirschberg calls attention to these differences between the above case and the miliary tubercles in the choroid; the latter occur with general tuberculosis; in this instance there was a local tubercular affection. The latter develop without manifest disturbance of vision or externally visible changes in the eye; in this case there was blindness, chemosis, and iritis. The latter may be seen with the ophthalmoscope as small, whitish, round spots, generally less than one mm. in diameter, with scarce other change in the fundus; here the papilla was wholly effaced, the greater part of the fundus, so far as it was visible, diffusely white, the veins were enormously enlarged, and there were retinal hæmorrhages.

The Retina in Pernicious Anæmia. — Litten¹ states as the result of his observations that the retinal hæmorrhages in pernicious anæmia present varying ophthalmoscopic appearances. They occur singly or scattered over the whole retina, are more frequently present near the papilla than the macula lutea, either accompany or have no visible connection with the vessels, and assume the most various shapes. According to their age they may vary in color from a light red to a dark brown.

To determine the pathognomonic value of these hæmorrhages a series of nine individuals, anæmic from different causes, were examined. Of these, three were cases of pernicious anæmia without known cause, one of uterine hæmorrhage from carcinoma uteri, two of metrorrhagia after abortion, three of hæmatemesis. The first four were fatal, the other five recovered. In seven of the nine cases there were multiple hæmorrhages in the retina; one of the cases without retinal hæmorrhage was of pernicious anæmia, one of hæmatemesis. It follows, there-

¹ Berliner klin. Wochenschrift, 19 and 20, 1877.

fore, that the hæmorrhages are dependent rather on the anæmic condition than upon any special form of anæmia, and certainly cannot be regarded as a safe diagnostic symptom of pernicious anæmia.

The light-colored spots in the midst of the hæmorrhages, which have been described by many writers, have no greater diagnostic importance than the hæmorrhages themselves. They were seen in some or all the hæmorrhages in each of the above seven cases, and have been found also in quite other affections. They depend on different pathological changes, however, according as they appear at the same time as the hæmorrhages or only at a later period. In the former case they are caused by an agglomeration of small, round cells which is in immediate contact with the red corpuscles of the hæmorrhage; in the latter they depend on regressive metamorphosis in the blood clot.

Concerning the origin of the heaps of round cells Litten does not agree with Manz.¹ The latter found these cell-heaps surrounded by a fibrous sheath, and also dilatations in the walls of the capillary vessels. Hence he regarded the hæmorrhages as analogous to capillary apoplexies in the brain. Litten is disposed to believe the appearances seen by Manz exceptional, and due to the formation of white thrombi in the capillary diverticula described. In four eyes which he examined he was unable to discover such, or any, changes in the vessel walls, or any sheaths around collections of white cells, and regards these collections of white cells surrounded by red corpuscles as the result of diapedesis. Nykamp² also found in the retina from a case of pernicious anæmia the walls of the blood-vessels generally intact, and decided evidences of diapedesis.

But not all the hæmorrhages are the result of diapedesis. The microscopic examination of hæmorrhages in which whitish centres had been seen to appear some time after the occurrence of the hæmorrhages showed the centres to consist of tissues in process of fatty degeneration. Here rupture of vessels is assumed, since diapedesis does not destroy the tissues, though even then no rupture of vessels was discovered.

In three cases of anæmia — one fatal, two recovering — Litten observed irregular whitish patches of various size, which, when situated over the larger vessels, hid without interrupting them. These patches after a time faded and disappeared, while, often within a period of twelve hours, others developed. They differed from the white patches in Bright's disease, in being less brilliant and less dense. No explanation of their nature is offered; nothing positive was found in the fresh retina of the fatal case, but there was evidently no fatty degeneration. They caused no marked disturbance of vision.

The peculiar light red color of the fundus and retinal vessels and

¹ Centralbl. für die med. Wiss., 1875.

² Berliner klin. Wochenschrift, 9, 1877.

exceptional pallor of the papilla appear to be constantly present in pernicious anæmia.

Drainage of the Eye. — Von Wecker,¹ starting upon the supposition that glaucoma, in the great majority of cases at least, is caused by diminished excretion rather than increased secretion, and that the efficacy of iridectomy or sclerotomy is due to the formation of a cicatrix which allows filtration, conceived the idea that the establishment of drainage through the ocular tunics might be still more effectual. In his first communication he stated that he had convinced himself that a loop of gold wire through the coats of the eye decreased the intraocular pressure much more, and caused cessation of glaucomatous symptoms sooner, than did the excision of a portion of iris. He did not propose, however, to substitute drainage for iridectomy in glaucoma as a general method. The new operation was to be performed only in cases where the performance of iridectomy was very difficult or dangerous, or failed in effect, in absolute glaucoma with great pain, hæmorrhagic glaucoma, and when the removal of a broad portion of iris did not diminish the tension. The drainage is effected by the introduction of a loop of fine gold wire through sclera or edge of cornea by means of a hollow, curved needle, the ends of the wire being twisted together after withdrawal of the needle, so as to lie closely upon the portion of tissue included in the loop.

From the theses of two of Von Wecker's pupils² and the report of Massilon,³ his *chef de clinique*, for 1876 it appears that drainage has been employed a large number of times, and its application has been extended from glaucoma to separation of the retina and of the choroid, hydrophthalmos, staphyloma, kerato-globus, and opacity of the cornea. Of the results in cases of separation of the retina it is said that drainage has almost always modified the disease and sometimes produced a rapid and sensible amelioration, but it is added that the treatment is yet too recent to make it possible to say what may eventually become of the eyes thus treated. It is to be remarked, also, that although the operation is spoken of as producing no injury, it was necessary in some cases to remove the wire on account of symptoms of inflammation.

Cohn⁴ employed Von Wecker's method of drainage in four highly myopic eyes affected with separation of the retina. He found the wire produced no irritation, though the patients returned to their usual occupations after from three to ten days with the wire in place. The separation was always either immediately completely relieved or diminished, but after a longer or shorter time recurred, spite of the retention

¹ Archiv für Ophthalmologie, xxii., 4; Monatsbl. für Augenheilkunde, March, 1877.

² Ribard. Drainage de l'Œil, etc. Paris. 1876. Grizou. Du Drainage de l'Œil. Paris. 1877.

³ Annales d'Oculistique, March and April, 1877.

⁴ Centralbl. für pract. Augenheilkunde, August, 1877.

of the wire. With the replacement of the separation the field of vision was restored, but any color-blindness produced by the separation remained, nor was the decreased perception of light improved.

Latterly Von Wecker¹ has substituted for the gold wire a single or double thread of catgut which has been first soaked in carbolated oil, then freed from the oil by ether. The catgut is thrown off after three or four days in children, after six or seven days in adults, leaving distended cicatrices at the points of entrance and exit of the loop, which permit an active filtration.

Do the Usual Solutions of Eserine or Atropine have an Antiseptic Action? — Von Wecker's idea that eserine solution has an antiseptic action has not been borne out by the experiments Schmidt-Rimpler² made to determine this point. The inoculation of the cornea of rabbits with blennorrhœal secretion from the lachrymal sac was found as a rule to excite a specific inflammation in that membrane, but this effect was not produced when such secretion had before inoculation been allowed to remain some time (twenty to fifty minutes) in chlorine water or solution of carbolic or salicylic acid, etc. When, however, the secretion had remained a like period in a one half per cent. solution of eserine or atropine the result of the inoculation was indeed diminished in intensity, as would naturally be expected from the dilution it had experienced, but its specific septic action was unquestionable. There was, moreover, no difference to be detected in the influence exerted by the solutions of the two substances.

Serous Subconjunctival Cyst. — A case reported by Laqueur³ is interesting on account of its rarity, if for no other reason. The cyst was situated in the middle of the retro-tarsal fold of the lower lid in a young woman of twenty-one years, was somewhat larger than a pea, and had developed gradually within two months, without pain. It lay more under the palpebral than bulbar conjunctiva, was very superficial at its central part, and contained a watery fluid. There was no history of injury. By careful manipulation it was removed whole. Examination by Recklinghausen showed that the cyst wall was everywhere distinct from the conjunctiva, but loosely connected with the surrounding tissues, consisted of a fibrillary connective tissue in which blood-vessels ramified, and was lined by a single layer of flattened epithelial cells.

¹ Gazette des Hôpitaux, June 28, 1877.

² Klinische Monatsbl. für Augenheilkunde, April, 1877.

³ Klinische Monatsbl. für Augenheilkunde, June, 1877.

PROCEEDINGS OF THE MIDDLESEX SOUTH DISTRICT
MEDICAL SOCIETY.

OCTOBER 10, 1877. DR. NICHOLS read a careful report of "an obscure case," which is reserved for publication in the JOURNAL.

DR. E. CUTTER read a paper upon Diet in Disease, in which he urged the insufficiency of starchy diet in exhausting diseases, and the importance of nitrogenous food. He supported his scheme by a variety of cases, including enteric and other fevers, and deficient lactation, urging the need of practical experiments in this direction.

DR. A. MASON, having recently returned from California, made some remarks, by invitation, upon the climate of California, especially of Santa Barbara, with other circumstances of surroundings, etc., affecting invalids. Rheumatic cases, he thought, are unfavorably affected by the climate. He distributed copies of a tabular statement of variations in temperature, moisture, etc., prepared by a resident physician of Santa Barbara, and embracing a period of several years.

The secretary read the following communication from the board of censors: —

CAMBRIDGE, MASS., October 10, 1877.

TO THE MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

GENTLEMEN, — Your board of censors has received a letter from Miss Eliza M. Mosher, requesting examination as a candidate for admission to the Massachusetts Medical Society. She states that she is a graduate in medicine from the University of Michigan, a member of a county society of the State of New York, and has recently been appointed resident physician to the State Reformatory Prison for Women at South Framingham.

By a vote of the councilors, passed in 1873, the censors are not allowed to admit a woman to examination for admission to the society. We have therefore instructed our secretary so to inform Miss Mosher.

Believing, however, as we do, that the exclusion of properly educated women from our professional ranks does not tend to advance the progress of medicine, we desire respectfully to suggest to the society that the councilors of the district be instructed to bring this matter again before the parent society, and to use all proper efforts to secure for women applying for admission to the Massachusetts Medical Society the same privileges that men enjoy.

(Signed)

J. L. HILDRETH.

E. H. STEVENS.

W. P. GIDDINGS.

[Copy.]

The following resolutions were passed with very few dissenting voices. Fifty-three members were present.

"*Resolved*, That in the opinion of this society the time has come when women should have the privilege of examination by any board of censors acting for the Massachusetts Medical Society.

"*Resolved*, That it is the desire of this society that well-qualified female

practitioners shall, after examination, be admitted to the Massachusetts Medical Society.

“*Resolved*, That the councilors of this society be instructed to communicate these resolves at the next meeting of the councilors of the Massachusetts Medical Society.”

THE AMERICAN PUBLIC HEALTH ASSOCIATION.¹

THE third volume of the transactions of this association, comprising principally the proceedings at the meeting in this city a year ago, has just been issued from the Riverside Press. Although it is less in size than its predecessors, the quality of the work which it records does not appear to have depreciated. There is the same variety of researches, the same manifest vigor, the same comprehensiveness of plan, which has characterized the former endeavors of this association. Originality of observation is less apparent in the work of this body than in that of more exactly scientific societies; but the knowledge already attained, the experience of men expert in various directions, are set forth in their application to the present needs of public hygiene, so that in the adaptation of its purpose to practical and reformatory ends the association has the advantage of showing in the main something tangible in the place of fine and impracticable theories. These reports thus become valuable, not to a narrow and exclusive circle of readers, but to all who have any interest in personal and public health, — a class which we believe to be large and steadily increasing.

The book opens auspiciously with a discourse by Dr. Austin Flint, upon Food. In this discourse, Dr. Flint endeavors to correct many false popular notions about alimentation, errors mostly hereditary and founded on bad theories. He shows that not only do we eat to live but that in a certain sense we live to eat. He proves the fallaciousness of diet tables, founded upon averages, as a standard for individual use. He has a good word for milk as an article of food, — “that precious form of food which has this superiority over other forms, namely, it embraces all the alimentary principles combined in exact relative proportions by the hand of Providence.” He deprecates the popular belief that most diseases arise from overeating, and as between excess and deficiency in eating would choose the former even if it were called gluttony. He quotes the remark of an old physician who, at ninety years of age, was asked to what he attributed his longevity and vigor, and replied, “I know of no other reason than this: I have always eaten when I wanted to eat, and as much as I wanted, and the best I could get.” In the matter of infants’ food, he says he would “warn parents not to accept for infantile life any article of food other than milk. Do not be led astray even by the name of Liebig, nor by the recommendations of personages be they never so distinguished.” The entire paper is exceedingly fascinating, as those who had the pleasure of hearing its delivery by its distinguished author can bear witness.

¹ *Public Health Reports and Papers*. Volume III. Presented at the Meetings of the American Public Health Association in the years 1875–1876. New York: Published by Hurd and Houghton; the Riverside Press, Cambridge. 1877.

An article on Expert Testimony would seem at first view to be in strange company in the transactions of a sanitary association. But it is not out of place; indeed, it is in its most appropriate connection. The medical expert and the medical officer of health are the two exponents of medicine in its public relations; they represent "public medicine" or "state medicine." Though not fully recognized at the present day, the association of public hygiene and medical jurisprudence is both natural and harmonious. So that we are glad to see in this volume a paper on expert testimony by an authority so distinguished as the late Professor Emory Washburn. After defining the true scope and purpose of expert testimony, its limitations and requirements, the author shows how difficult and well-nigh impossible it is under the present system of summoning expert witnesses to divest the testimony of such witnesses of a partisan character and to avoid the disagreeable and often demoralizing concomitants of such a method. To improve the prevailing system, the author proposes the following: "To have the court before which the trial is to take place select a proper number of experts of an established reputation, after a proper hearing of the parties, and to have these called; while the parties may still be at liberty to call others if they see fit." Such a recommendation possesses very obvious advantages, and if carried out would banish many of the gross and scandalous evils of which medical experts with good reason complain. Under such improved conditions, the witness-stand would no longer be a place of torture for physicians.

Professor Wood, of Harvard University, has an article on Illuminating Gas in its sanitary relations. The article is especially emphatic in its treatment of the subject of water gas, a mixture of hydrogen and carbonic oxide. The proposition to use this gas for heating purposes should be strenuously opposed, the author maintains, on account of the large amount of the dangerous carbonic oxide element in its composition; when petroleum is added to the water gas to fit it for illuminating purposes, the danger in the use of the odorless non-luminous mixture is diminished.

Naval hygiene is treated in interesting papers by Drs. Woodworth, Gihon, and Bell. If we may trust these writers, sanitary zeal will not need to seek far to find new fields for its exercise, when all things are set right in town and country; the records show that an average of seventeen thousand seamen annually become disabled in their vocation, "the result," says the supervising surgeon-general, "of the food the sailor eats, the clothes he wears, the hole he sleeps in, and the excesses these conditions naturally and inevitably drive him to."

The subject of the hygiene of dwelling-houses is generously treated in six articles by well-known writers. In the interest of scientific exactness of observation which hygiene requires equally with other departments of research, we must find fault with the following in Colonel Waring's paper: "I was recently told of a household in New York which had for years been a reliable source of income to its attending physician. After his death, a younger doctor, an enthusiastic sanitarian, who succeeded him, soon became convinced that the illness which had so long prevailed was due to emanations from the drainage pipes of the house. Plumbers were employed to make a thorough inspec-

tion, and they reported everything in perfect order. The cases of disease kept coming, and an inspector from the Board of Health examined the house, finding no defect. The character of the recurring ailments indicated so clearly a foul-drainage cause, and no other, that the physician finally applied himself to a minute inspection of every part of the work. On the waste-pipe under a wash-basin he detected a very slight oozing of moisture, so slight that he did not feel sure that it existed until he found that it moistened tissue-paper laid over the spot. The most rigid scrutiny developed no other leak. This pipe was taken out and a new one substituted, and, although he or his predecessor had been called to attend some member of this family almost weekly for a dozen years before, he was not called again for eighteen months, and then only because of the stock." What a far-sighted young physician, and what a small hole!

Dr. Elisha Harris utters a good word in behalf of general vaccination, and points out the practical measures which should be put into operation to secure the best and largest results in this country.

Mr. C. T. Lewis contributes a paper in which he argues that civilization exerts a favorable influence upon longevity; that, in modern times, infant life is more fully protected; that the care of the sick, infirm, and aged has substantially improved; that fatal epidemics are more infrequent; and that knowledge of the laws of health and the practical application of them are steadily promoting long life. The hypothesis of the survival of the fittest in its adaptation to the development of the human race is not acceptable to the author; and incidentally, he pays his respects to the dismal pessimism which found expression in "an unsavory discussion two or three years ago — echoes of which are still sometimes heard from the lecture desk or the press — on the rapid tendency of Massachusetts to relapse into barbarism, from the decline in numbers of the native-born and intelligent people before the multiplying vitality of the ignorant classes."

PROFESSOR HITCHCOCK ON PHYSICAL EDUCATION.

THE paper read on this subject at the recent meeting of the Public Health Association furnishes food for much thought. This may at first sight appear a compliment, but it will prove to be a criticism. We approve heartily of physical exercise; we think its neglect has done great harm to the present generation, and are glad to see that more attention is now paid to it. So if we criticise Professor Hitchcock severely it is not that we are opposed to physical education, but simply to his method and the manner in which he advocates it. The paper describes the plan pursued at Amherst. The professor begins with an account of the gymnasium, and gives at full length the verbose, goody-goody inscription that is painted on the walls. To us it is disgusting; and we have no doubt is a subject of mirth and derision to ten students for every one to whom it is edifying. The duties of the professor of the department of physical education and hygiene are as follows: —

"First, to take charge of the gymnasium and give instruction to the stu-

dents in gymnastics. Second, to take a general oversight of the health of the students, and to give such instruction on the subject as may be deemed expedient, according to the general plan stated by the president in his report, and under the direction of the faculty, like all the other studies. Third, to teach elocution so far as it is connected with physical training. Fourth, he shall give lectures from time to time upon hygiene, physical culture, and other topics pertaining to the laws of life and health, including some general knowledge of anatomy and physiology. Fifth, the individual appointed to have charge of this department shall be a thoroughly educated physician, and, like other teachers and professors, shall be a member of the college faculty. It is distinctly understood that *the health of the students* shall at all times be an object of his special watch, care, and counsel."

A feature which we especially dislike is the popular treatment of human anatomy and physiology. To be just, we give the plan in Professor Hitchcock's own words: "The anatomy and physiology which is technical or professional is not offered to the student, but only such knowledge as may be gained by a tolerable acquaintance with the skeleton, the manikin, and most of the enlarged papier-maché models of Auzoux." Knowledge of this kind is of little value, and develops, if anything, either hypochondriasis or conceit, sometimes both.

But let us return to the gymnasium and see what these obligatory exercises amount to. Each class attends four times a week for half an hour. The exercises consist of series of movements with light dumb-bells, together with marching and running. We find, however, that this drill continues only fifteen or twenty minutes, and that the remainder of the half hour is spent in voluntary exercises, which are sufficiently varied, as the report shows: "Some use the heavy apparatus — about one in eight — or take a longer run; others dance, use clubs, sing, pull rope, toss in the blanket, turn somersaults, and occupy themselves in any proper manner to secure exercise, sport, or recreation."

We cannot forbear quoting the following passage, though it is hardly medical, because it shows so thoroughly what we must call the canting style which characterizes the whole report: —

"The military method, though a little used, is not sought after. It seems idle to talk about military rules and life where there is no military authority to carry out the regulations. Were the college a state or government institution, a military department would be in place and possibly sustained and prospered. But to talk about military rules and methods without the authority of the ball and chain, the guard-house, or power of life and death in the officer, seems worse than idle. College students will generally chafe under that rule which degrades them from the agents of free will and choice to a mere live machine, except when 'the country calls.'"

Talk of this kind takes in the country, but it is hard to see why grown men waving wooden dumb-bells at the command of an instructor are not equally degraded with those who are learning the manual. We know which would be the most useful when "the country calls." Do West Point officers have power of life and death?

We have not space to follow Professor Hitchcock through the account he

gives of the health of the students, the physical statistics, religious influence, and what not that he implies flows from the obligatory drill of from sixty to eighty minutes a week, with the supplementary singing, dancing, and turning somersaults ; we think we have said enough to give a fair idea of the paper. We hope we shall not be misunderstood. We approve of physical exercise, and we would encourage the gymnasium, and still more out-door sports, but we think that Professor Hitchcock claims far too much for the little he does. He, too, rides a hobby, and his is not a particularly "square trotter."

THE WOMAN QUESTION.

THE Middlesex South District branch of our state society has made a mistake in bringing up this vexed question. Haste is out of place, for there is nothing to gain and something to lose by it. We are to consider simply the good of the profession and of society ; respectable female practitioners do not as yet constitute a sufficiently large class to demand notice on their own account. Before any innovation should be accepted it must be shown that it is good and that it is needed ; when this is done it will succeed with little effort ; till this is done its success is not to be desired. There are, no doubt, hundreds of women holding the medical degrees of more or less sham "universities" from Boston to Texas, but the number of excellent female practitioners in America whom a society might be proud of could be counted on the fingers of one hand ; indeed, it would puzzle us to name so many. The time for action has not arrived. We know nothing of the lady whose application for admission is the cause of this discussion, but we may be permitted to say that there is no apparent reason to believe that she is of such exceptional attainments that the Massachusetts Medical Society should feel called upon to modify its laws on her account.

MEDICAL NOTES.

— An army medical board will be convened in New York city early in November, for the examination of applicants for appointment as assistant surgeon of the United States army. The following will be the general plan of the examination : —

I. A short essay, either autobiographical or upon some professional subject, to be indicated by the board.

II. Physical examination. This will be rigid, and each candidate will in addition be required to certify "*that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of his duties in any climate.*"

III. Oral examination on subjects of preliminary education, general literature, and general science. The candidate must satisfy the board in this examination that he possesses a thorough knowledge of the branches taught in the primary schools, and a failure to show this will end his examination.

Oral examination on scientific subjects will include chemistry and natural

philosophy ; and that on literary subjects will include English literature, history of the United States, and general history, — ancient and modern. Candidates possessing a knowledge of the higher mathematics, the ancient and modern languages, will be examined therein, and due credit given for a proficiency in any or all of these subjects.

IV. Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves ; it is made an important subject in this examination.

V. Clinical examination, medical and surgical, in a hospital.

VI. Performance of surgical operations on the cadaver.

— A successful English pedestrian has lately paid the penalty of unreasonable exertion. The victim, Hunter, undertook to walk one hundred and sixty miles in forty-eight hours, and accomplished the feat with thirty-five minutes to spare, but the next afternoon, while in bed, he was found to be ill, and he soon died, apparently from disease of the heart.

— We copy from the *Medical Examiner* the following account of the case of Mademoiselle Titiens, the celebrated singer, who died on October 3d: "Two years and a half ago she had symptoms of obstruction of the bowels at Brighton, and on Dr. Howell's arrival a femoral hernia was found on the left side. This was reduced, and Mademoiselle Titiens was left in a satisfactory state; but a few days afterwards sickness returned, and with it abdominal pain. A careful examination discovered a fibroid tumor attached to the base of the retroverted uterus, the cervix uteri being pressed against the pubis. The tumor was pushed up into the pelvis, and the patient was relieved. The same accident occurred on three other occasions, the tumor each time being pushed up into the pelvis after a few days' rest. Mademoiselle Titiens noticed last April that the abdomen was increasing in size, and that there was some ascites. Mr. Spencer Wells then saw her with Dr. Howell. Diuretics were tried, but the kidneys ceased to secrete, the bowels would not answer to aperients, and vomiting ensued. The patient was then seen by Sir William Jenner and Mr. Spencer Wells with Dr. Howell, and it was determined to tap the abdomen. This was done by Mr. Wells, and sixteen pints of fluid escaped. The omentum was thickened, hard, and attached to the abdominal walls by strong adhesions. The fluid was examined microscopically, and it was found to contain large cordate, irregular, and mother cells. Shortly after the operation the patient was tapped again, and twenty-five pints were withdrawn. A month later twenty-one pints were evacuated, a month afterwards sixteen pints, and a fortnight later fourteen pints. The solid mass, which is now considered to have been of a sarcomatous character, steadily increased during the whole period, and at the time of death probably weighed sixteen to eighteen pounds. Sir James Paget and Dr. Wilson Fox saw the patient in the latter part of her illness, and the case ran the usual course, with sickness, acute pain, and comparative temporary relief after the tapping. During the last two months that Mademoiselle Titiens resided at Worthing, general dropsy

of the lower extremities supervened. The kidneys acted fully after the tapping, but the secretion gradually and progressively diminished after each operation up to the time when the operation again became necessary."

— Anno Domini 1877, Timothy Holmes, F. R. C. S., surgeon to and lecturer on surgery at St. George's Hospital, in a clinical lecture on the treatment of strangulated hernia, says: "Taxis is very much more assisted by chloroform than by ether. I do not myself recognize that very great difference in the danger of anæsthesia from chloroform and from ether which some surgeons profess to feel. It seems to me that complete surgical anæsthesia is always a dangerous thing, whether produced by chloroform or ether; and I think chloroform produces so much more complete relaxation, and that so much more speedily, that it is very much more convenient in the reduction of dislocations and strangulated hernia."

— *The Philadelphia Medical Times* for September 29, 1877, states that at the Centennial Exhibition there was an enormous percentage of sickness among the Japanese exhibitors, due partly to the change in their mode of life and climatic surroundings, and largely to their mode of living. Their dwellings were so slightly built as to afford but little protection from cold, and in cold weather their rooms were unventilated. Eighteen per cent. of them suffered from typhoid fever. At the Centennial Hospital 6463 cases of disease and injury were treated. Although there were acres of moving machinery, and the steam railway carried around the grounds 3,784,142 passengers, there was no serious accident. There were only four deaths upon the grounds, no births, and but one abortion. "These facts furnish strong proof of the admirable management of the Centennial authorities, of the modesty which keeps the American woman secluded during the later months of pregnancy, and of her retentiveness during the earlier days of her sorrow."

— A process has been invented in England by which condemned meat may be deodorized, rendered disgusting to the taste and offensive to the eye. It is put into a bath with the result that at the end of a fortnight the meat smells perfectly sweet, is dyed a deep yellow color, and is made very unpalatable. Recently four tons of meat were submitted to this process, and its object was fully accomplished. After the meat has been taken from the bath it is used for manure.

— *The Showering Tree*. The consul of the United States of Columbia in the department of Loreto, says *L'Union médicale*, has just written to President Prado, giving some curious details concerning a tree which grows in the forests in the neighborhood of the town of Magobamba. This tree, called by the natives *Tamai copsi* (arbre à pluie), is possessed of remarkable properties. It is some eighteen metres in height when it has attained its full growth, and the diameter of the base of its trunk is about one metre. The tree absorbs and condenses with astonishing rapidity the moisture of the atmosphere, and water is seen to trickle continually from its trunk and to fall like rain from its branches, and in such abundance as to transform the soil about it into a veritable marsh. The tree possesses this property in its highest degree during the season of the year when the rivers are low and water is scarce; so that the consul of Loreto proposes to plant the tree in the arid regions of Peru for the benefit of agriculturists.

HOSPITAL REPORT.¹

CLINICAL SERVICE OF DR. WM. PEPPER,

Professor of Clinical Medicine in the University of Pennsylvania Medical School.

Treatment of Typhoid Fever. — Beginning with the second week of the disease, when the abdominal symptoms of pain and diarrhœa have fully set in, one quarter of a grain of nitrate of silver with one twelfth of a grain of belladonna, and from one sixth to one half of a grain of the watery extract of opium, are exhibited in pill form three times a day after meals. Under this treatment diarrhœa and tenderness have diminished, and patients have made very rapid recoveries. In most cases very little stimulus is used. Milk and beef tea are the only articles of food allowed. Quinia is given with other tonics. Fever is reduced by frequent spongings of the skin of the entire body. When the high fever resists sponging, cool baths are employed. Indiscriminate bathing in typhoid fever is often extremely injurious. The best time for the use of the cold bath is in the early stage, during the first week or ten days, in cases where the temperature rises above 103°, and is not controlled by frequent spongings, large doses of quinia (quinia acts most admirably both in this and other diseases as an antiphlogistic), diaphoretics, etc. When the fever in subsequent stages runs high, it is of the nature of a sympathetic fever, largely dependent on the amount of intestinal lesion; hence cold baths are less valuable at that time and attended with more risk. Nitrate of silver is used both with the hope of limiting the amount of the specific follicular catarrh of the intestines, and with the intention of favorably modifying the secondary sympathetic symptoms. The very best results are also obtained by the continuous use of nitrate of silver in chronic inflammation of the bowels and in gastric ulcer. The nitrate is given in doses of a third of a grain a couple of hours after meals. Dr. Pepper has cured *thirty-nine* out of the *forty* cases of typhoid fever in which it has been employed, by this nitrate of silver treatment.

Goitre. — A great number of cases of this affection have applied for treatment here within the past year. The majority of the cases have occurred in women, and have been intimately connected with some uterine trouble. The successful mode of treatment is by hypodermic injections, of from six to ten minims of a solution containing ninety-six grains of ergotine to the ounce of distilled water, well into the substance of the enlarged thyroid gland. The injection is repeated two or three times a week for the space of from four to six months, when the gland becomes thoroughly hardened. It begins to shrivel with the stoppage of the injections, and very soon returns to its normal size. Ergotine is of no value in bronchocele, but only in cases of simple enlargement of the thyroid gland. The injection is attended with very little pain, and this is generally local or referable to the origin of the sterno-cleido mastoid muscle. Injections of ergotine have also been made locally in both tonsillitis and adenitis, with good results.

¹ Reported for The Medical and Surgical Journal.

Chronic Dysentery. — There have lately been two well-marked cases of this disease in the medical wards. In the first case the treatment was by the late Professor Simon's proposed method, by "gravity injection." The Simon apparatus is very simple, consisting of an ordinary funnel with an elastic tube attached, some six or eight feet in length. The liquid to be injected is poured into the funnel. The height at which the funnel should be held depends upon the amount of resistance to be overcome and the quantity of the injection. In this case a solution of nitrate of silver, varying in strength from eight to fifteen grains to the quart of water, was introduced into the bowel. At first a pint, and later a quart of the solution was injected once or twice daily; afterwards once in two days. The injection was retained for from five to ten minutes. Its retention gave no pain with the exception of a slight burning sensation when the stronger solution was injected. The stools became formed and less bloody very soon after the inception of the new treatment, and in three weeks or so the patient was entirely convalescent.

The second case refused entirely to improve under this kind of treatment, but yielded completely to a pure milk diet. A quarter of a grain of calomel and ten grains of bismuth were given three times a day for the space of two days before beginning the pure milk diet.

[The "gravity injection" has also cured a case of intussusception in a child, completely disengaging the invaginated bowel.]

Local Rheumatism. — To subdue the painful state of the muscle, injections of one eightieth of a grain of atropia and one eighth of a grain of morphia well diluted should be made into the body of the muscle. This somewhat heroic mode of procedure has been invariably followed by the most excellent results. The patient, who, before the injection, was so sore that he could scarcely move without bringing on the most excruciating pain, after the injection holds his head up, feels the place where the application was made, then moving a little finds that his pain has gone, and looks and speaks the most intense gratitude. This is a particularly useful method of treatment in practice among the poorer classes, and by the almost instant relief it affords will win for the doctor the warmest consideration. Great care must always be had in the administration of morphia and atropia to nursing women, as belladonna is the most powerful antilactagogue known, and too large doses of morphia not infrequently affect the child through its mother's milk.

Chronic Articular Rheumatism. — In one case the rheumatism, which was at first general, had become concentrated under the instep and in the sole of the foot. Its effects were intensified by the extreme natural flatness of the foot, which threw all the weight of the body on the instep and the middle of the sole, where the tissues were as hard and thick as under the heel. There was much ankylosis of the joints, and the plantar nerves were pressed upon and irritated by the indurated tissues. The treatment has been by manipulation of the ankylosed joints and counter-irritation applied to the nerve trunk higher up the leg. The continued current with the positive pole placed over the point of tenderness, and the negative pole higher up the nerve, may also be employed. A shoe should be constructed which shall take the strain off the painful point and throw the weight of the body on the outside of the foot,

In the second case, rheumatism of the ankle-joints in a young girl with marked rheumatic diathesis was brought on by scrubbing in her bare feet. The girl was able to notice the fact that the pain and soreness always increased before and during bad weather. The persistent use of iodide of potassium in the form of Zollikoffer's mixture has been followed by the best of results.

A CASE OF FRACTURE AND ONE OF DISLOCATION OF THE PATELLA.

MESSRS. EDITORS. — The subject of fractured patella has come somewhat into notice recently, and a number of cases, with their treatment, have been reported in the JOURNAL, and descriptions of apparatus, both simple and more complex, given. I think the treatment and appliances for this injury are very simple indeed, and to illustrate I will, with your permission, give you a case which occurred in my practice over thirty years ago, — the only case I ever happened to have, for I believe this kind of fracture is comparatively rare.

The patient was a gentleman some seventy years old. While walking, in the month of March, he stepped upon a large stone which was nearly buried in the ground and slightly glazed with ice. The foot slipped suddenly back, and his knee came square upon the stone, causing a complete fracture of the pan, transversely. I found the two fragments of the bone separated about one and one half inches. This occurred early in my practice. I had never seen a case, and hardly recollected of reading of one, but I knew that to effect a perfect cure the parts must be put in juxtaposition and kept there. My greatest or only fear was that the old gentleman would not be able to bear the confinement which the case would require, as he had been a man of active habits; but he said he would try. As near as I can recollect, my treatment was this: I placed the limb on a straight ham-splint properly padded; I cut two strips of good adhesive plaster about eighteen inches long and one and a half wide; I brought the separated pieces of bone perfectly together; one strip of the plaster I applied above the patella, bringing the ends down diagonally on each side of the leg and caused it to adhere firmly; the other I applied above the bone and brought it up the sides of the leg similarly to the other, which for the time kept the parts together. I then took a piece of soft sole leather, about four inches square, and made a hole in it that would accurately fit the patella; this was kept in place by a bandage around the knee, to be wet with alcoholic lotion as the case might require. There was no further trouble except in keeping the patient quiet. A complete bony union resulted, and in a few weeks the old gentleman was walking about attending to his business without crutch or cane.

Let me also report a case of dislocation of the patella which I had two weeks ago, occurring to a young lady some seventeen or eighteen years old, while in a game of blind-man's-buff. This accident, I believe, is much less frequent than the fracture of the bone. Indeed, I have never before seen a case except where the knee-joint itself was dislocated.

Late in the evening, on the 12th of September, I was sent for in haste to

visit the lady. who, the messenger said, had "put her knee out of joint." In less than an hour, probably, from the time of the accident, I arrived at the house. I found the patient lying on the sofa, apparently suffering a good deal of pain. On examination I found to my gratification no dislocation of the knee, but one of the patella. The deformity was so great that I did not wonder that those who had seen it thought the knee out of joint. The bone was displaced inwards, the upper and outer edges being lodged under the inner condyle of the femur, the under surface looking towards the opposite limb. The leg was slightly flexed, and the knee-joint quite rigid. Upon a slight manipulation of the limb the patient complained greatly, whereupon I took a handkerchief from a lady standing by, saturated it with ether, and applied it to the face of the patient, and in three or four minutes she was unconscious, when, with a slight pressure on the bone in the right direction, it slipped into its place. Without the ether, I think, from the strong contraction of muscle, it would have required considerable effort and caused not a little pain to have restored the bone to its place. After some ten minutes the patient revived, and said her "knee felt all right," and not long after, with a little help, she walked to her carriage, got in, and drove home.

The only thing remarkable in this case is the slightness of the cause which effected so complete a displacement of the patella. It seemed, as well as I could ascertain, that in the play she was crouching down, and to avoid the hands of the catcher she made a sudden move sideways, when she felt something give way, and fell helpless to the floor.

A. D. BACON.

SHARON, September 27.

LETTER FROM LONDON.

MESSRS. EDITORS, — Professor Lister, recently appointed professor of surgery in King's College, inaugurated his appearance in London to-day by delivering the "introductory lecture" before that college in the presence of an audience which filled the hall to overflowing.

The address consisted in the main of an account of several series of experiments which he has lately made with the view of investigating certain processes of fermentation, and notably that fermentation of milk which delivers lactic acid as its most important product, and is popularly known as souring. While introducing his subject and speaking of fermentations in general, Professor Lister mentioned incidentally a fact first noticed by him in some of his late experiments, which may prove of some importance in surgical pathology, namely, that if blood is drawn with antiseptic precautions into a vessel allowing the entrance of air but not of the particles of dust suspended in it, the clot does not putrefy, and further does not contract and press out the serum as is observed under ordinary exposure to the air, but continues of a uniform jelly-like consistency.

Passing then to the account of his experiments on the lactic fermentation, the professor described first a series of experiments in which the milk was boiled to destroy any living organisms existing in it and then protected from the entry of material particles in the air. Although these precautions suc-

ceeded in preserving the milk from fermentation, still it might be doubted whether the ferment were not a chemical substance preëxisting in the milk and destroyed or altered in the boiling.

It was towards the settlement of this point that Professor Lister's late investigations were directed.

The first series of experiments were undertaken to show that with proper precautions milk drawn directly from the cow into prepared vessels may be kept in contact with the air, under the protection of a loosely fitting glass cover, without undergoing fermentation. In these experiments, although he could quite easily procure milk which would remain free from the lactic fermentation, yet in all of his first experiments he found his tubes of milk to contain some form of vegetable growth, different in the different tubes, and in some cases quite new to him. At length by drawing the milk in the open air on a drizzly day, when most of the particles floating in the air might be supposed to have been washed to the ground, he succeeded in obtaining two specimens which kept free from any form of fermentation and under the microscope showed no traces of vegetable life, thus furnishing an extremely strong argument against the belief that the fermentative material preëxisted in the milk.

The second series of experiments bore upon this same point. They were as follows: First, by careful microscopical examinations and calculations, upon the detail of which it is unimportant here to dwell, he decided as exactly as possible what quantity of distilled water it was necessary to add to a given specimen of sour milk in order to obtain a solution containing one bacterium lactis per drop. Supposing him to have obtained such a solution, it is evident that if to each of a number of protected cups of boiled milk be added one drop of this solution, some of these would receive drops containing one, two, or three bacteria, while others would receive drops containing none. Performing this experiment, he obtained such results as one would in theory expect. Some specimens soured quite rapidly, some more slowly, and others not at all. Modifying the plan, he added to one cup a drop calculated to contain four bacteria lactis, to several others drops calculated to contain two bacteria, and to still others drops calculated to contain one each. That to which supposably four bacteria were added soured, as also more or less quickly all those to which two were added, while of those to which drops calculated to contain one bacterium were added several remained sweet, thus again supporting the theory. On examining all of these tubes microscopically, Professor Lister found that without exception all of those which soured contained the bacterium lactis in large quantities, while in those which remained sweet he found none of this bacterium. Arguing now upon these facts: If the fermentative material were a soluble chemical substance it is evident that in all of these experiments the result ought to have been the same, namely, a speedy fermentation. If the active principle were of a material form, distinct from the bacteria, it is inconceivable that these particles should correspond so closely in numbers with the bacteria that a liquid prepared to contain a certain number of bacteria per drop should contain an equal number of those other particles, and so produce the expected effects. And an equally insurmountable obstacle to this supposition is presented in the fact that the microscope showed bacteria lactis inva-

riably in those which fermented and never in those which did not. For even supposing that these imaginary particles existed in like numbers with the bacteria, it is entirely inconceivable that they should with such unfailing accuracy always fall together in the same drop. Professor Lister concluded by saying that even if he had not thus proved this point to the satisfaction of others, at least he thought he had pointed out a road to its solution.

Professor Lister begins this week his work in the King's College Hospital, and will have one and perhaps more entirely new wards at his disposal.

A. T. C.

LONDON, October 1, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING OCTOBER 13, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	465	22.45	27.46
Philadelphia	850,856	249	15.22	22.88
Brooklyn	527,830	212	20.88	24.31
Chicago	420,000	141	17.46	20.41
Boston	363,940	125	17.86	23.39
Providence	103,000	48	24.23	18.34
Worcester	52,977	23	22.58	22.00
Lowell	53,678	17	16.47	22.21
Cambridge	51,572	19	19.16	20.54
Fall River	50,372	25	25.80	22.04
Lawrence	37,626	19	26.26	23.32
Lynn	34,524	12	18.07	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	6	11.67	23.57

BOSTON DISPENSARY. — At the annual meeting of the corporation the following gentlemen were elected for the ensuing year: Managers, J. H. Wolcott, George H. Kuhn, Henry B. Rogers, William R. Lawrence, Thomas Wigglesworth, Samuel Johnson, Rufus Ellis, and Francis W. Lawrence; treasurer, Francis E. Parker. The board of managers was organized by the choice of J. H. Wolcott for chairman and Arthur Lincoln for secretary. The following appointments were made: Superintendent, William H. H. Hastings; surgeons, Thomas Waterman, Thomas Dwight, Charles E. Inches, Walter Ela; ophthalmic surgeon, William S. Dennett; physicians, Robert Disbrow, Reginald H. Fitz, Josiah L. Hale, William H. Baker, Joseph P. Oliver, Allen M. Sumner, Frederick W. Vogel, William C. Holyoke, George B. Shattuck, Robert M. Lawrence, John Dixwell, James B. Ayer, Frederic C. Shattuck, Edward H. Bradford, John F. Bush, Francis H. Davenport; department for diseases of the nervous system, Samuel G. Webber, David F. Lincoln; department for diseases of the skin, Francis B. Greenough; dental department, Henry F. Dunkel; district physicians, George W. Copeland, Thomas M. Rotch, Edward F. Hodges, Maurice H. Richardson, Samuel Howe, Arthur T. Cabot, Abner Post, William J. G. Fogg, Thomas G. Reed; apothecary, John J. Kelly.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A stated meeting will be held at the rooms, 36 Temple Place, on Saturday evening, October 27th, at seven and a half o'clock. The following paper will be read: —

Dr. G. M. Garland, Pneumono-Dynamics, with Experimental Demonstration.

Tea, etc., at nine o'clock.

ERRATUM. — Page 441, foot note 2, for "First International Society," read "First International Otological Society."

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, NOVEMBER 1, 1877. — NO. 18.

A FEW PRACTICAL SUGGESTIONS CONCERNING EXTRACTION OF CATARACT.¹

BY HASKET DERBY, M. D., BOSTON.

THE operation for the extraction of senile cataract bids fair always to remain the capital operation of ophthalmic surgery. With the possible single exception of iridectomy for glaucoma, more interest centres in it and more consequence is attached to its result than in the case of any other form of instrumental interference with the eye, while its far greater frequency of occurrence renders its careful study of the first importance.

Very few of us, I imagine, have followed blindly in the beaten track. From time to time improvements have been suggested and modifications of accepted methods brought forward. We have held fast to the good and dismissed, after a passing trial, that which has failed to stand the test of time or to bear the brunt of statistics. Much interest would attach to the recorded experience of a candid surgeon if, after fifteen or twenty years of full practice, he should publish a truthful history of his successive changes of opinion, and give his reasons for the course he at present pursues. Time is wanting, and this is not the place, for any such exhibition on my own part. I desire here simply to state two or three points in connection with the operation of extraction, concerning which I have been led materially to change the views I once held.

And first, *as regards the use or non-use of mydriatics as preparatory to extraction.* The old arguments for the instillation of atropine before extraction are familiar to all; there would be more room for the knife in its passage across the anterior chamber; its point would be less likely to catch in the iris, and a wound or dialysis would consequently more seldom follow; the secondary dilatation that ensues on the reëstablishment of the anterior chamber would tend to keep the edge of the iris clear of any fragments of corticalis that might remain behind, and lessen the likelihood of a closed pupil and a secondary cata-

¹ The accompanying paper was intended to be read at the annual meeting of the American Ophthalmological Society in July of the present year. The railway disturbances, then in progress, prevented a quorum of the members from assembling.

ract. Despite these arguments, it is needless to call your attention to the fact that many surgeons have long given up the use of atropine before operating. So far from the passage of the knife being rendered more easy, it was found that its point could be more readily directed against a background of iris than when this was wanting, and that a wound or dialysis was even less likely to follow when the pupil was contracted than when the point of the knife, at its entrance or exit, was met by the swollen periphery of a dilated pupil. And the state of mydriasis, returning as it does after the aqueous humor is resecreted, was found directly to encourage prolapse of the iris after extraction and healing in of the iris tissue in the corners of the wound, where extraction had been performed according to the method of Von Graefe. Such considerations have induced me, as they have others, to relinquish, for some years, the use of atropine under these circumstances. But I do not stop here. Acting on the hint given by Wecker, I have gone over to myotics, not, however, following his example by using them just before and just after the operation, but instilling a few drops of a one per cent. solution of eserine into the eye two or three hours before the extraction. At the time of the operation I then find a considerable myosis, which interferes in no way with the extraction, and returning, like mydriasis, with the reëstablishment of the anterior chamber, exerts on the iris a degree of traction that reduces to a minimum the danger of its healing in to the corners of the wound, and, in my own experience, seems to render this complication less frequent than formerly. This contraction of the pupil readily yields to atropine, should it be found desirable to employ it during the after-treatment. Although cortical remains are, on the first examination, found to occupy the area of the pupil, the edge of the iris may generally be made to separate from them with readiness after repeated instillations of atropine. Secondary cataract ought theoretically to follow more frequently when its use is so long postponed. Practically I have not found this to be the case.

At first I used the eserine at the time of the operation. But though the application of this drug, when pure, is unattended by pain, patients sometimes complained of an unpleasant thrill or "jumping sensation" in the eye, occurring at intervals for several hours after the operation. As yet, the only eserine fit for use is that prepared at the Pharmacie Vée,¹ in Paris, and the solution should be made at the time of use.

The second point to which I would call your attention is the *employment of an anæsthetic*. With us, in Boston, the use of ether at extractions has been, for at least a dozen years past, a matter of course. Patients have generally asked for it; if not, it has been pressed upon them. Freedom from all pain has been held up as an argument to

¹ 42 Rue du Faubourg St. Denis.

decide the wavering, while the immobility thus secured, was to render the performance of the surgeon's task more easy and more certain.

And here again experience must, I think, have taught most of us that theory and practice by no means go hand in hand, and that the state of anæsthesia is apt to throw appreciable obstacles in the way of a successful extraction. The amount of congestion induced in many by the inhalation of ether encourages hæmorrhage, and the anterior chamber often fills with blood before the division of the capsule, when it would otherwise have remained free. The patient's will being in abeyance he is no longer able to render that assistance to the surgeon which is of so much importance. Every needed motion must be given the eyeball by traction with the fixation forceps. In profound anæsthesia the muscles are relaxed, the eye loses its tension, and the difficulty of removing cortical fragments is considerably increased. At the conclusion of the operation the surgeon is unable to satisfy himself by roughly testing vision as to whether he has performed his task thoroughly, and the patient loses the moral support of once exercising his newly acquired sight, — a support that has cheered many a one through the long dark days of convalescence. Finally the nausea that, in spite of every precaution, will often ensue, the retching and vomiting that sometimes endure for hours, cannot but have an injurious effect on the eye so recently laid open, besides rendering the patient unable to take nourishment and lowering his *morale*.

Who that has used anæsthetics has not over and again realized these objections to their employment? Who, after visiting Continental *cliniques*, has not envied the facility with which operations are performed on conscious subjects, and watched with interest their convalescence? I have long wondered at the results obtained by certain European ophthalmologists, prominent among whom I will cite Arlt and Wecker, — results which, I frankly admit, those we have as yet obtained in Boston fall far behind. And, on witnessing their operations last summer, and following, to some extent, their cases, the question naturally suggested itself as to whether, after making all due allowance for great dexterity and constant practice, their success is not in part due to the avoidance of anæsthesia. I am personally convinced that it is.

We are met with the stock objection that the sensibilities of the European peasant are blunter and his power of enduring pain greater than is the case with the nervous American; that those of the present generation in this country have a full realization of the facility with which anæsthesia may be obtained, and of the harmlessness of ether; that argument is therefore of little avail, as people will generally insist on its use. Practically this is wholly untrue. For upwards of a year I have (with two exceptions) performed all my extractions without ether, and have found my patients amenable to reason, when the disad-

vantages attending its use were once explained to them. Nor have I experienced any special difficulty from their restlessness at the time of the operation; rather, indeed, have I been struck by the small amount of pain they appeared to suffer. In my limited experience it has even seemed as if the senile eye, affected by cataract, lost a portion of its normal sensitiveness, so many have assured me that the pain they felt was comparatively trifling. I have not in a single case found it necessary to use my fixation forceps after the section was completed, and, though invariably performing iridectomy, cannot find a single dialysis recorded.

In operating, therefore, without ether or chloroform we claim that congestion is avoided and hæmorrhage lessened; that the eye can be directed by the voice instead of by the touch of the operator, thereby decidedly facilitating the exit of the lens; that the eyeball retains its fullness, rendering the manipulation for clearing the pupil of corticalis much easier; that the answers of the patient, as to how much he sees, give otherwise unattainable information as to the clearness of the pupil; and that subsequent nausea is avoided, enabling the patient to take needed nourishment, not only before but even soon after the operation, and to dispense the earlier with the services of an attendant, — in hospitals a decided advantage. Last, but not least, his *morale* is maintained; he knows he sees, and looks forward with confidence, instead of doubt, to the removal of the bandage.

In view of the objections already cited, and fortified by the advantages just enumerated, I confidently assert that the routine employment of anæsthesia, in the extraction of cataract, is not consistent with the largest attainable measure of success.

The final question I would raise is, *How soon, after the performance of the operation, shall the lids be separated and the first examination made*, if there be no reason for supposing that anything has occurred to complicate the healing process?

I was never inclined to agree with those who advised a hasty inspection of the eye on the day of the operation, but deferred this usually to the end of twenty-four hours, changing the bandage and lint and washing the outside of the eye within twelve hours, but never separating the lids. The next day I would simply glance at the cornea by the light of a single candle, but not use oblique illumination till the third or fourth day. Gradually I came to find that the eye did quite as well if the lids were allowed to remain closed two and even three days, the dressings of course being changed daily. And, as time went on, a new fact forced itself repeatedly on my notice: that in certain cases where the healing process was interrupted by inflammatory complications, the first pain, lachrymation, or discharge followed accurately on the first separation of the lids, however carefully managed and however hasty

the examination. The case might have been doing perfectly well for three or four days, no swelling of the lids, lachrymation, or undue discharge might have been present or the slightest pain experienced, the eye then for the first time opened and rapidly surveyed by a weak light, no lens being used and no trial of the vision made, and within a few hours pain would occur and marked symptoms of inflammation be present. This happened so frequently that it became impossible not to connect the examination and the inflammation as cause and effect. Acting on this belief I kept prolonging the time that I allowed the eye to remain unopened, and now rarely make my first examination before the morning of the seventh day.

Supposing the extraction to have been performed in the early morning, my present practice is to remove the bandage at about five in the afternoon and bathe the outside of the lids with tepid water, a fresh bandage and lint being then applied. The severe pain that, in some exceptional cases, occurs a few hours after the operation I have often seen yield to gentle sponging with iced water, a single application being generally sufficient. The next morning I again remove the bandage. If everything is doing well, if there is no swelling, undue secretion, or lachrymation, the bandage is reapplied, and after that changed but once a day. Thus the case is allowed to go on for six days, if everything seems, from external inspection, to be progressing favorably. On the morning of the seventh day I open the lids. Those who are themselves accustomed to make an earlier examination are often astonished to see how little evidence of the operation is present, a trifling redness in the immediate vicinity of the wound being sometimes all there is to be seen. Atropine may now be used if circumstances render it advisable; many cases, however, do not require it at all. The eye is now closed and allowed, for a day or two, to remain so, but a shade is substituted for the bandage, the room still being darkened. The redness about the wound, slight at first, will be observed for several days after opening steadily to increase before it begins to disappear.

The above course of treatment is applicable only to cases where the healing process may be presumed to be progressing normally. I believe that the longer the examination is deferred the more likely the patient is to do well, and this not on the ground of any preconceived theory, but simply from experience. I am aware that numerous theoretical objections might be alleged to such a method. It could be argued that the secretions of the wound and the blood left in the conjunctival sac, being unable to escape, might decompose and act as sources of infection. These and other objections may be brought forward on theoretical grounds. To those who urge them I would simply suggest a fair trial of the plan itself, believing they will in the end themselves find that the longer they leave the wound undisturbed, in contact with

and guarded by the covering provided by nature, thus sealed and protected from any germs of contagion with which the atmosphere may be infected and which the exposure of a single instant might attract, the more success they will meet with in the after-treatment of extraction.

THE ABUSE OF MEDICAL CHARITIES.¹

BY ORVILLE F. ROGERS, M. D.

AN examination of the reports for last year of all the larger medical charities of the city shows that 92,977 patients were treated gratuitously in the dispensaries and out-patient departments of the hospitals. The reports of the out-patient departments of the institutions which were in existence ten years ago show that the number treated by them during the past year was about three hundred per cent. greater than in 1866. Not only has the number of beneficiaries of the older institutions increased at this extraordinarily rapid rate, but new charities have been founded and well advertised, and are now, in the language of the reports, doing a "great work." The result of this is that more than twenty-seven per cent. of the population of Boston are treated by the dispensaries and out-patient departments of hospitals. This is an increase far out of proportion to the growth in population or the increase in the number of those relieved by other departments of the various charities. These facts are calculated to produce the impression that the number of medical paupers is greater than it should be, and that there is something wrong in the system of medical relief under which such a state of things can exist. An examination of the mode of administration which obtains at present tends to confirm this impression.

Before admitting a patient to a hospital the authorities satisfy themselves by a critical examination of all the circumstances of the case that the applicant is a person upon whom charity may be properly bestowed. The character of a certain portion of every community renders this course necessary if the charitable contributions of the public are not to be squandered upon professional vagabonds, or that slightly more respectable class who, though able to support themselves if obliged to do so, have neither sufficient self-respect nor honesty to restrain them from availing themselves of every easily obtained charity. Though all this is well known, I have been unable to learn that any efficient restrictive supervision of the out-patient departments and dispensaries is exercised by the managers of these institutions in Boston. Practically they are open to all. When a charitable institution is administered in such a manner as to *invite* fraud, it is not strange that its consultation

¹ Read before the Norfolk District Medical Society.

rooms are thronged with crowds of shameless impostors as well as by the deserving poor. In view of all the opportunities there are for obtaining gratuitous medical advice, it is surprising that so many of the poorer classes still employ and pay a doctor. Ignorance of the privileges offered or self-respect have heretofore kept many from becoming hangers-on of the out-patient department ; but the ignorant are rapidly becoming informed and accept what is so freely given, and the scruples of the would-be honest are overcome by the influences of the out-patient consultation room, a place where medical advice is so cheapened that it is a question whether patient or doctor confer the favor, where there is no official to ask unpleasant questions as to the pecuniary ability of the applicant, and where a cheerful doctor sits with somewhat of the air of a man giving a reception to his friends, and bids them all as they depart to "come again." The cry of "hard times," while properly raised by some, offers a ready-made excuse to those who have just honesty enough to feel the need of a salve for their consciences while they are stealing an ointment for their shins. It is not claimed that many of the really well-to-do class are found here, but the unscrupulous cupidity of some leads them to don their uniform of old clothes and enlist for a limited term of service in the ignoble army of medical "bummers."

It is impossible at present to say what proportion of those who apply for gratuitous treatment are able to pay. At the Massachusetts General Hospital the voluntary contributions of out-patients during 1876 was one hundred and twenty-six dollars ; but this sum cannot be supposed to represent the paying capacity of its seventeen thousand out-patients. It undoubtedly represents several thousands of dollars which these people would have paid the profession as fees for services had not the hospital gratuitously furnished them.

It was found at the London Hospital, Whitechapel Road, that forty-nine per cent. of the out-patients should not have applied there. Probably a similar state of things exists in this country. Whether the proportion of impostors is as large in Boston as in London is immaterial to the discussion, as the one point to be emphasized here is that the out-patient and dispensary systems *invite* patients and frauds instead of raising suitable safeguards in the interests of justice. In order that one acquainted with the system may suppose that grave abuses do not exist, he would have to believe that the mass of the lower orders of the community are possessed of incorruptible honesty, of self-respect and a nice sense of honor, which propositions will hardly be accepted by one who has practiced medicine for any length of time.

The blame for the present condition of affairs largely rests with the members of the medical profession. If physicians were not willing and even anxious to give their services in the out-patient department for the sake of clinical advantages, this system would be speedily over-

thrown. So long as the cost of maintaining hospitals and dispensaries is not materially increased by wholesale charities of this character, the public cannot be expected to interest itself in the matter; but if it were to cost the institutions a small sum for each patient, checks upon this abuse would be immediately applied. Hence those who serve gratuitously in the out-patient departments and dispensaries are mainly responsible for the existing system. These men cannot claim that they do this solely in the interest of suffering humanity, for the ends they have in view are chiefly selfish. They hope through the many advantages of the place to gain a reputation and a lucrative practice, and to fit themselves to fill prominent positions in the profession. Whether these objects, worthy in themselves, justify a few men in disregarding the interests of the profession at large is a question to which there can be but one reply. It is an unpleasant fact that the new dispensaries and departments of out-door relief devoted to the various specialties are usually opened fully as much for the advantage of those who are to have charge of them as for the suffering poor, and every effort is made to justify their establishment by extending their benefits to nearly every one, worthy or unworthy, who may apply at their doors, and upon the fact that large numbers are willing to accept this aid is based an appeal to the public to contribute generously, in order that this so-called "beneficent work" may be prosecuted on a still greater scale.

There is a growing feeling in the profession that this system is wrong, and that a reform is needed. Unfortunately, this feeling is not shared by the medical officers of these charitable institutions, who are rather inclined to resent any attempt to diminish the number of patients as an assault upon their privileges. It is not easy to find a remedy for the evils complained of.

In England, where the subject has excited considerable interest, the provident dispensary plan has been tried with a certain measure of success. An effort has been made to establish a similar institution in New York, but so far it has been without any tangible result. This is not surprising, since the provident dispensary, based upon the just principle that valuable services demand reasonable payment, is obliged to compete in the same field with old institutions which gratuitously render the same services. It has been proposed to charge all applicants at the out-patient department a small fee, but this is obviously inexpedient, and so far as I can learn has not been tried. Certainly no more efficient plan could be devised for defeating the very end for which the out-patient department was established, namely, the relief of the destitute.¹ The New York Hospital has adopted the system of selling the

¹ Since writing the above I have learned that the Massachusetts General Hospital has adopted this plan of demanding a fee from all, and that they make some inquiry into the circumstances of those who claim to be unable to pay. It is to be hoped that the hospital will ultimately turn away those able to pay a fee and attend only those who are its legitimate patients.

privileges of the out-patient department for a dollar a month to any who may apply. These plans are wrong in principle, and the profession should earnestly protest against their further adoption. The dollar-a-month system, especially, is an innovation so dangerous to the interests of the profession and so manifestly wrong that it is astonishing that reputable physicians are willing to assist in carrying it into execution. If this movement is widely imitated it will not be long before the profession will have nearly all the indigent sick upon its hands, and the hospitals will have the bulk of the paying patients of the poorer class. If this plan has been devised as a remedy for present ills, it is a striking example of a remedy that is worse than the disease. It has been thought that if the number of physicians to out-patients were increased, and they were instructed to institute a searching inquiry into the pecuniary ability of all applicants, and to send away those able to pay a moderate fee, the evil would be soon overcome. This method would undoubtedly succeed if the cordial coöperation of the medical officers could be secured; but this, for reasons before given, cannot be expected. If this duty were entrusted to an officer, not a medical man, who should carry his inquiries into the homes of all who became patients, imposition on any large scale would be prevented.

The proposal to abolish the out-patient department has been adopted by the managers of two hospitals in London, who were unable otherwise to rid themselves of the horde of barefaced impostors that infested their consultation rooms. The Board of Jewish Guardians of London has also taken similar action. Their decision in this matter is worthy of consideration, since the Jews are acknowledged to be most skillful and humane in the care of the poor. The only valid objection to this course that can be raised is that the sick poor would not be cared for. There is little probability that any case would go untreated, since humanity and self-interest alike prompt the profession to render aid whenever it is required. The abolition of the out-patient department would throw a large burden upon the profession, but the greater part of it would fall upon the young practitioners, who would gladly assume it for the sake of the experience and the moderate pecuniary recompense to be gained. Perhaps the radical expedient of abolishing the out-patient department may not be adopted in Boston; certainly it will not be if that large and influential body of men connected with the medical schools and the hospitals can help it. Nevertheless, some plan ought to be devised to prevent the shameless begging which now prevails. It will be, and the evil system, fostered by the active connivance of a portion of the profession and maintained by the conservatism and indifference of the managers of medical charities, will be overthrown.

One of the worst features of the wholesale relief system is that the loss falls heaviest upon those who can least afford to bear it,—the

younger members of the profession. During the earlier portion of the professional life of most men the poor are their best friends and their only patients. In fact, the poor are the very breath of their nostrils. Even a patient unable to pay a penny is often of much benefit to his doctor. It is needless to dilate upon this point, as every physician knows that the poor offer the young man almost his only field for making a living and a reputation. A large portion of that field has already been taken from him, and if the present order of things is to continue and the number of medical beneficiaries is to increase during the next decade as it has in the last, not only will the portion of the young man be lost, but some of the older brethren will have to say with the Psalmist: "Thou broughtest *us* into the net; thou laidest affliction upon *our* loins."

RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

The Nasal Douche and the Ear. — Inflammations of the middle ear, both catarrhal and purulent, have been frequently reported in the last few years as the direct result of the use of the nasal douche, and many unreported cases have occurred in the practice of those who see much of aural disease since the extensive use — and abuse — of Weber's apparatus. The reckless employment of the instrument without advice and with almost every imaginable fluid, and for any and every condition of the naso-pharyngeal cavity, including even fancied collections of dust, was undoubtedly the cause of some of the earlier accidents to the ear; but further experience has shown that even with all the cautions which the physician can give it will occasionally happen that any fluid introduced into the naso-pharyngeal cavity with force, be it by the douche, or the nasal or pharyngeal syringe, may find its way into the Eustachian tube, and set up an inflammation of the middle ear. To diminish the risk of this accident as far as possible the following cautions are now generally recognized as necessary to be observed with the use of either the douche or syringe: the water should be lukewarm and contain a small quantity of salt to make its specific gravity as nearly equal to that of the blood as possible; any great pressure should be avoided; the act of swallowing or any other movement of the pharyngeal muscles which tends to open the Eustachian tube should be carefully prevented by the patient; blowing of the nose and sneezing for some little time after the operation should also be avoided. In spite of these cautions occasional accidents to the ear still occur,¹ even when the physician himself has superintended the application of the

¹ Roosa, Knapp, Pardee, Shaw, Bowen, Zaufal, et alii.

fluid; and Buck¹ has recently reported cases of inflammation of the middle ear from the simple snuffing up of salt-water into the nose, no syringe being used. The argument that has been used, namely, that the ear disease, after the use of the fluid, is a mere coincidence and not the result of the operation, is sufficiently refuted by the clinical histories of many of the cases, for the passage of the liquid toward the ear is distinctly felt by the patient at the time, and is followed immediately by the pain which continues through the course of the disease.

These being the facts as learned by experience, some writers have urged that the use of fluids in any quantity in the naso-pharynx should be entirely discarded, and that the objects of cleansing the cavity and of making applications to it should be done by sponge or brush. Others, recognizing the great value of douching for certain diseases, especially ozæna, are endeavoring to add to the cautions already observed such others as shall wholly prevent the possibility of the fluid reaching the ear. Zaufal² considers the use of the douche as absolutely necessary in ozæna and certain ear diseases dependent on disease of the nasal mucous membrane, and would prevent the entrance of fluid into the Eustachian tubes by a mechanical closure of those tubes. He has seen and demonstrated that pressure of the soft palate towards the orifices of the tubes has the effect of raising the floor of the Eustachian tube so high that the tubal cartilage is pressed back and the floor of the tube is pressed against the cartilage-hook, and the orifice is tightly closed. Accordingly, when he wishes to apply the douche he stands behind the patient, and with two fingers closes the tubes by firm pressure of the soft palate against them.

Fränkel,³ while acknowledging the effectiveness of this expedient of Zaufal's, considers that it is not always, or even generally, applicable, but thinks that the same closure of the tubes can be produced by the phonation of the non-nasal vowels. His practice is as follows: before using any applications he satisfies himself that both nostrils are free enough to allow the exit of fluid, and this is readily accomplished by closing first one nostril and then the other while he is listening to the breathing of the patient. Instead of a Weber's douche he uses the rubber bulb syringe of Michel (the Davidson syringe would be a good substitute), which enables the patient to check the current when necessary. The patient is then directed before compressing the bulb, that is, beginning the douche, to pronounce the vowel oo, and to continue this phonation till after the douching is over, thus closing the palate against the posterior wall of the pharynx and the Eustachian tubes by contraction of the levator palati muscle. The advantage of this use of

¹ New York Med. Record, March 24, 1877.

² Prager med. Wochenschrift, No. 10, 1876.

³ Deutsches Zeitschrift für praktische Medicin, No. 30, 1877.

phonation over the former method of douching is that the naso-pharyngeal isthmus is already closed before the fluid enters the nose instead of closing by reflex irritation after the entrance of the fluid.

In addition to the cautions already given, these expedients of Zaufal and Fränkel can well be borne in mind in prescribing any form of douche, the former when the surgeon himself makes the application, the latter when it is intrusted to an intelligent patient. But unfortunately the intelligence of patients, in a surgical sense, cannot be depended upon, and the question of whether the benefit from the douche more than counterbalances the slight risk to the ear must be left to the decision of the prescribing physician. Certainly the cases of ear disease which have been reported should lead to a careful consideration of each individual nose, and should check the reckless and indiscriminate use of the douche.

Rupture of the Membrana Tympani from Hanging. — Zaufal¹ explains the well-known fact that the membrana tympani is often found ruptured in persons who have died by hanging as follows: from the compression of the neck the tongue is forced upwards against the soft palate, and this in turn presses the floor of the Eustachian against its roof, closing the tube. This closure taking place very rapidly the air within the tympanum is condensed and ruptures through the membrane.

Syphilitic Disease of the Labyrinth. — Comparatively few and imperfect observations of the histological changes of the labyrinth in syphilis have been published, and the following by Moos² is of special interest. A man, aged forty-four, after seven years of constitutional syphilis complained, with other symptoms of tertiary disease, of "frightful" subjective noises of all varieties in the ears, and occasional attacks of dizziness. The hearing was perfect and inspection showed nothing. Three months after the perception of higher tones and the ticking of a watch was diminished, but conversation was well heard. In six weeks more the perception of the voice was seriously affected, and within a week the deafness was very extreme. Death from bronchitis followed eight days after. Dissection of one ear showed sclerosis of the petrous bone; the external and middle ears were normal throughout, and the only changes were in the labyrinth. The periosteum of the vestibule was thickened and the base of the stapes immovable; the connective tissue of the vestibule hyperplastic and with small-cell infiltration; the periosteum of the lamina spiralis ossea and the different zones of the lamina spiralis membranacea, more especially the pillars and arches of Corti, likewise infiltrated; the acoustic nerve was normal.

These microscopic appearances correspond, Moos says, with Virchow's

¹ Prager med. Wochenschrift, No. 10, 1876.

² Virchow's Archiv, vol. lxxix., pages 2, 313.

and Wagner's descriptions of the earlier stages of syphilitic new growths, and he considers that the pathological process in the ear started from the periosteal connective tissue of the vestibule and extended by contiguity to the cochlea, of which the zones were somewhat unequally affected. The primary disease of the vestibule, he thinks, was most probably caused by the extension of a syphilitic inflammation of the connective substance of the bones and periosteum of the skull to the labyrinth, the first appearance of the ear symptoms being simultaneous with the characteristic syphilitic headache. The earlier ear symptoms, subjective noises, and vertigo were caused by the periosteal irritation in the vestibule; the later, rapidly increasing deafness, etc., by the ankylosis of the stapes and the infiltration of the cochlea, this latter especially being sufficient by its pressure to obliterate the functions of the nervous structures.

The earlier pathological changes, that is, the small-cell infiltration, Moos thinks would lead one to expect in some cases a cure from appropriate medication, provided always that atrophy, caseous degeneration or ulceration, had not set in. The latter changes, however, the hyperplastic, would be beyond hope.

From the symptoms in this case and from his previous experience Moos agrees with Hinton¹ that an early and very rapid loss of hearing is an important symptom for the diagnosis of syphilitic ear disease. An early diminution of the perception through the bones he has also observed. Extreme deafness from syphilis he has never been able to affect by any therapeutic means, but the true "nervous" syphilitic cases in the very earliest stages he has found amenable to treatment.

Extension of Inflammation from the Brain to the Tympanum. — Inflammation of the brain, showing itself as meningitis, encephalitis, or thrombosis from an extension of an inflammatory process in the ear, is by no means uncommon, and the avenues by which such an extension takes place have been carefully studied and are quite well understood. The reversed process, however, an extension of inflammation from the brain through any of these avenues to the ear, is very rare, almost the only instances confirmed post mortem being cases of cerebro-spinal meningitis, in which the membranous labyrinth, or the tympanum, or both, were found in various stages of inflammation. Berndgen² reports a case of interest, both as an instance of secondary inflammation of the tympanum dependent on brain disease and of an unusual avenue of communication between these two organs. A strong man, aged twenty-one, complained of severe pain in the left ear, and presented all the appearances of an inflammation of the tympanum, serous infiltration, and marked redness of the membrana tympani, etc. Under the use of

¹ Supplement to Toynbee's Diseases of the Ear.

² Monatschrift für Ohrenheilkunde, March, 1877.

leeches and the air-douche this rapidly improved, and he resumed work, but returned after a few days on account of an attack of severe dizziness, which it was feared depended on extension of the inflammation to the brain. The inflammation of the ear had much diminished. The dizziness soon passed off, but eight days after he had severe temporal headache, which was followed in four days by sopor, clonic spasms, and death, with the symptoms of paralysis of the brain. The autopsy showed an abscess, the size of a pigeon's egg, in the substance of the left cerebellum, which had ruptured through the dura mater, and a little pus was lying external to this membrane. The dura mater itself on the left side was hyperæmic and thickened, and this was more particularly the case in the immediate neighborhood of the fissura petrosquamosa, which in this case had never closed, but remained in the state in which it is generally found in children when it forms a direct communication between the cavity of the skull and that of the tympanum. The mucous membrane of the tympanum showed only slight redness, swelling, and a little catarrhal secretion. The roof of the tympanum and the dura mater covering it were intact. The mitral valves of the heart showed marked thickening. Other organs normal.

The condition of the abscess, its size, and the thickening of the dura mater, together with the slight disease of the tympanum, leave no doubt that the brain disease was primary and the tympanic disease secondary, or, more correctly, that the encephalitis occurred first, this extended to the dura mater, and then through the abnormally open fissura petrosquamosa to the tympanum. This communication between the encephalon and tympanum, which must be referred to an arrest of development, adds another to the numerous channels for the extension of inflammation from one organ to the other.

The case of Berndgen is another instance of the insidious course of abscess of the brain.

(*To be concluded.*)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

SEPTEMBER 29, 1877. Forty-nine members were present, DR. HOMANS, the president, in the chair.

Cancer of Breast. — DR. W. INGALLS presented a patient who was still under treatment for cancer of the right breast, which became an open ulcer in December, 1876, the hardness or lump having been observed for four years previous to that date, the general health having always been good. The patient came under observation on the 30th of April last at the Boston City Hospital; the ulcer was deep and long, and on the lower aspect of the breast below

the nipple ; for the space of two inches above and along the upper margin there was great hardness ; and the lower edge was formed by a ridge of a half inch elevation, hard and immovable. There was an enlarged gland in the axilla, which has nearly disappeared, but there is another in a different position. It was thought that it might be of interest to see the case after treatment of five months, Dr. Ingalls promising to report it in full at its termination.

It was seen that the open ulceration had contracted to so great a degree that it was now hardly two inches long by half an inch wide, whereas when it was first seen one could have placed half a turkey's egg, cut longitudinally, within it, with room to spare. The former region of hardness has given way to an almost entirely natural softness.

The treatment, taken from Marsden, of London, had been by arsenical paste, poultice, and liquor sodæ chloridi diluted with water. There had been but little occasion for drugs internally.

Hip Disease. — DR. BRADFORD showed a boy who had had hip disease for nine years, the result of an injury. There were many sinuses, and he had been in various hospitals without improvement. Two years ago he came to the Carney Hospital in a bad condition, and without much treatment ankylosis had taken place, with two inches' shortening and very extensive scars resulting from the previous suppuration. There was no evidence of any active disease remaining, and the boy was in good condition. The case was interesting as showing, by the great extent of the cicatrices, which occupied a large part of the surface in the neighborhood of the joint, in what apparently hopeless cases recovery may take place. The patient walked well with cane or crutch.

Uterine Supporters. — DR. C. E. WING, in a paper on this subject, which has already been printed by the author, alluded to the danger of injury to the patient from the too hasty adjustment of a pessary, since uterine displacements of long standing in many instances must be reduced very gradually, often with supporters of different forms, changed as the occasion requires with the slow return of the uterus and vagina to their natural position and shape. Hence, too much care cannot be taken in adapting suitable instruments until the condition of the parts is such that an efficient supporter can be worn indefinitely.

The Middle Ear. — DR. D. HUNT read a paper on the Development of the Middle Ear, which was published in full in the JOURNAL of October 18th.

Grindelia Robusta. — DR. PATTEE called attention to the beneficial effect of this drug in certain pulmonary affections. Much of the fluid extract sold in this market was said to be worthless. Dr. Pattee had used the tincture with success in bronchitis, asthma, and whooping-cough in doses of half a drachm or more repeated every one or two hours. It had been employed also in a case of poisoning by rhus toxicodendron. The effect was said to have been curative in thirty cases of whooping-cough after three or four days, and relapses had not occurred. The dose for a child two years old was ten drops every two hours. No unpleasant symptoms had been observed after large doses.

DR. HOMANS inquired whether the duration of whooping-cough had been shortened.

DR. PATTEE replied that in a family where one child had had whooping-cough away from home for three months, on her return the disease was communicated to two other children, in whom, however, it was arrested after being ten days established, and did not reappear.

WOODMAN AND TIDY'S FORENSIC MEDICINE.¹

WE have argued, on other occasions, that it is a mistake on the part of our medical schools to appoint a professor of medical jurisprudence, because it is impossible for one man to have the varied technical learning necessary for the task; now we find our views confirmed by the difficulty that this book presents to reviewers. A large part of the volume is devoted to poisoning, and is handsomely illustrated by colored lithographs representing stomachs affected by various poisons. These plates are very handsome, but hardly worth the increase of cost they cause, for as every one knows the stomach does not always present the same appearance from any given poison. Many circumstances modify the picture. This subject shows great labor and most extensive reading. The next subject taken up is the examination of hairs and stains. There are some pretty good figures of a variety of hairs, but the question is by no means exhausted. The blood is more thoroughly treated. The conclusion concerning the recognition of human blood is very cautious, namely, that as a rule we cannot tell. We shudder as we think of the testimony of many of our so-called experts, and turn the page. Life insurance is then discussed at greater length than we consider desirable in a book of this nature; the subject, however, is made very interesting. Personal identity in the dead and living is a most important question, especially in the case of the former, and is not very thoroughly treated. There are many tables of the proportions of the human body, but we do not find definite and satisfactory rules by which to calculate the height, nor are we told how much precision is attainable. It is a subject, however, concerning which much information is needed. Insanity seems to us to be well treated in this book, though a psychologist might find some short-comings; a number of cases are reported to illustrate different forms, to explain feigned insanity, and to show the rulings of distinguished judges. The authors are familiar with Tardieu's striking monograph on hanging, and quote him to show that for death to occur it is not essential that the suicide should be clear from the ground, nor even that the rope should encircle his neck. The nature of the mark of the rope is discussed, and it is stated that it does not show whether a man hanged himself or was hung up immediately after death. The book is full of interesting accounts of cases of all kinds, which make it very entertaining as well as valuable. On the other hand, it contains little that is new, and not so much on some points as we should expect in an original work.

¹ *Forensic Medicine and Toxicology*. By W. BATHURST WOODMAN, M. D., and C. W. TIDY, M. D. Philadelphia: Lindsay and Blakiston. 1877.

BOSTON DISPENSARY.

WE have received from Dr. Hastings, the superintendent, the tables printed below, which show the amount of good done by this most deserving charity. The statistics are for the year ending September 30, 1877. The number of new patients at the central office is 29,247, classified as follows:—

MEDICAL DEPARTMENT.

	Men.	Women.	Children.	Total
1st quarter,	1080	1640	1003	3723
2d “	1520	2403	1010	4933
3d “	1530	2870	1290	5690
4th “	1404	2797	1789	5990
Total,	5534	9710	5092	20,336

SURGICAL.

1st quarter,	394	296	125	815
2d “	548	281	180	1009
3d “	427	208	197	832
4th “	495	284	258	1037
Total,	1864	540	760	3693

DENTAL.

1st quarter,	185	211	230	576
2d “	187	225	243	655
3d “	189	233	265	687
4th “	149	253	329	731
Total,	710	922	1067	2699

SKIN DEPARTMENT.

1st quarter,	278	112	104	494
2d “	367	122	149	638
3d “	381	105	128	614
4th “	276	201	166	643
Total,	1302	540	547	2389

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.

1st quarter,	24	18	5	47
2d “	16	20	5	41
3d “	10	2	4	16
4th “	12	12	2	26
Total,	62	52	16	130

The number of visits made by patients, old and new, at the central office is 68,463, classified as follows:—

Medical . . 58,801 Surgical . . 9662 Total . . 68,463

The number of new patients treated in the districts is 19,542, classified as follows:—

	Men.	Women.	Children.	Total.
1st quarter,	745	1726	2509	4980
2d “	933	2148	2629	5710
3d “	589	1621	1775	3985
4th “	710	1871	2286	4867
Total,	2977	7366	9199	19,542

The results of treatment are as follows : —

Discharged cured or relieved	18,293
Sent to hospitals, or removed from the districts	799
Died	491
Remaining under treatment	127
	<hr/>
	19,710
Under treatment at last annual report	168
	<hr/>
	19,542
Number of cases at central office	29,197
	<hr/>
Total number at central office and in districts	48,739
Number of cases of midwifery	199
“ “ “ “ “ since July, 1858	2,968
“ “ patients treated since October, 1796	655,578
“ “ “ “ “ July, 1856	536,776
Average daily attendance at central office during the year	223
Number of recipes put up at the central office	113,026
Daily average	362

OUT-PATIENTS.

THE figures published above will certainly appear to confirm the views of Dr. Rogers, which are published in this paper. There are, no doubt, a great many poor, and a great many that pretend to be, who frequent the public charities. We cannot, however, agree with Dr. Rogers that were these institutions closed the patients would flock to the doors of deserving young practitioners; on the contrary, we firmly believe that the latter would be but very little better off. Quacks, indeed, would be benefited, as would also physicians who for years have devoted themselves to practice among the poor, and who have acquired a reputation in it, but the new graduate would be honored with even pauper patronage to a surprisingly small extent. Nine tenths of those who might come to him would do so without the intention of paying, even if they were able to do so. If they have to lay out money they expect at least the advice of a known man in exchange for it. If the young doctor is content to treat them for nothing he may have something to do, but we would ask Dr. Rogers whether the want of moral sense he so feelingly deplores is not manifested as clearly in begging from an individual as from an institution. Looked at in this light it would appear that we have simply a quarrel between the old litigants, the “outs” and the “ins.” The truth is that neither in spirit nor practice is our profession a mercenary one; and we must repeat what we have more than once asserted, that if a man has no means to support him for at least several years of practice he has no business to become a physician. It is not very edifying to imagine either a physician or the agent of a hospital bargaining with a day laborer for the difference between a half and a quarter of a dollar, nor forcing himself into a tenement house to assure himself that the occupant is as poor as he pretends to be.

Now let us look at the question from another point of view, and see what

are the advantages of the present system. We admit that there is an immense amount of imposition, though we deny that our younger colleagues suffer materially by it. We may appear to be arguing the cause of the "ins," but we disclaim any intention of offending the "outs." In the first place, looking at the matter merely in the light of a charity, the poor are insured better treatment by the present system than they would obtain were they left to wander at large. In the next place, the clinics are of great use for both the acquisition and diffusion of medical knowledge. Shut them up, and the education of students would seriously suffer; nothing takes their place. It may further be said that the patient who is used for instruction pays for his treatment. In a recent number of the JOURNAL¹ we discussed this subject at some length, and it is still far from exhausted. We would now content ourselves with emphasizing one point: our profession is not a trade. Those who enter it without adequate means make a terrible mistake. This is the season of introductory lectures, and we cannot forbear repeating the warning with which Dr. Pavy two or three years ago surprised a London audience of students eagerly awaiting the conventional and false alluring promises. He told them that without three things no one should enter medicine: first, an overwhelming love of the profession; secondly, a sufficient property; and, thirdly, willingness to trust to another world for the reward of a vast amount of labor in this one.

COLOR IN MEDICINE.

WE have been more than a little amused by a rumor, apparently authentic, that the New York College of Physicians and Surgeons has refused admission to a negro because he is black. As our readers well know there is at present much discussion concerning preliminary examinations at medical schools. Some have real ones; some, as we suspect, sham ones; most, none at all; but the College of Physicians and Surgeons is, as far as we know, the only one that announces boastfully in its prospectus that it has none. It now appears that this school does itself injustice; that far from having no preliminary examination it has a most stringent one, which the candidates will find it difficult to evade,—it rests solely on color. We trust that on the next announcement we may be informed whether applicants must be perfectly white, or whether light mulattoes and Japanese will be accepted; also whether any discount is made to albinos.

MEDICAL NOTES.

— *The Medical Examiner* takes the following from the *Paris Médical* regarding the action of opium and bromide of potassium in heart disease:—

Some time since some one called digitalis the quinine of the heart. But digitalis is a precious remedy which is sometimes abused. It has well-marked contra-indications. In heart diseases characterized by aortic insufficiency and obstruction, digitalis is not indicated, a series of experiments made by M. Gubler showing the power which opiates have in these cases. It is above all in

¹ September 6, 1877.

mitral affections that opium is contra-indicated; it is useful, on the contrary, in affections of the aortic orifice.

Dr. Henry Huchard has sought to explain the therapeutic action of opium by attributing to it a *hyperæmiant* action on the brain. Without committing ourselves to this explanation, we shall content ourselves with making known the mode of administration.

Preference should be given to preparations of morphia, and especially to the subcutaneous injection of morphia; experience on this point having amply demonstrated, on the one hand, that large doses of this remedy only are successful, on the other hand, that the morphia injected into the cellular tissue is endowed with an action not only more rapid, but slightly differing from that which it possesses when introduced into the stomach.

At other times M. Gubler prescribed the tincture of thebaia in five-drop doses, three times a day.

In the *Revue clinique de Bologne*, Dr. Giuseppe Angrisami has come to the following conclusions with regard to the administration of bromide of potassium: The bromide has no action on the muscular fibres of the heart as digitalis has, and the latter has no action on the arteries; the bromide is a remedy most fitting for correcting functional disturbances of the heart, as frequency, intermitting, arhythm, etc. Whatever be the state of the myocardium, it modifies advantageously and quickly angina pectoris and palpitations, when they are simple neuroses. In cases depending on profound anatomico-pathological lesions of the heart and its vessels, or on compression, the bromide succeeds in producing a more or less lasting improvement. From these facts we may conclude in favor of *opium* when there is aortic lesion, *bromide of potassium* when there is neurosis, *digitalis* in other cases.

— Dr. James I. Tucker, in *The Chicago Medical Journal and Examiner* for October, 1877, recommends the use of colocynth for the relief of some forms of abdominal pain. He asserts that "colocynth will allay the pain caused by excessive peristaltic action better than any drug in use, not excepting opium, providing it be used in the proper dose." The form he employs is the tincture, and only so much is to be used as to render the excipient, generally water, slightly bitter. Of this a teaspoonful is to be taken and repeated *pro re nata*.

— We copy from the *British Medical Journal* the following notes of Mr. F. J. Gant on the condition of the pedestrian who has successfully accomplished the unprecedented feat of walking fifteen hundred miles in one thousand hours:—

"On October 6, 1877, the final day of William Gale's unprecedented pedestrian feat, I visited him on his leaving the track at 3.24 P. M. He complained of feeling very cold, and his hands and arms were quite cold up to the elbows. In the recumbent position the pulse at the wrist was 80, having risen from 70 at 10.30 P. M. on the previous night; but the pulse-wave had now become very weak and irregular, and the arterial tension was very low. This state of collapse might have been partly due to his having imprudently indulged in a cold-sluiding bath, over the head and shoulders, thus affecting the heart's action, an hour before I saw him. I immediately administered a cup of brandy

and egg mixture, and had the hut in which he lay cleared of all persons except his brother and sister. In about ten minutes some reaction commenced, and he turned on his right side, and slept for a quarter of an hour, or until the time-bell rang, when the track attendant entered and woke him. He very readily got up, and, after walking his usual mile and a half, he had somewhat revived, and said that he then 'felt the blood circulating.' I gave him, however, some more egg nourishment, with a little brandy, — he dislikes all alcoholic stimulants, — and sent a message requesting the brass band to stop making a noise, that he might sleep again. But Morpheus refused all solicitation to return. On leaving the hut for the last heat I expressly enjoined him, and he promised, not to spurt for the gratification of the unthinking vast concourse of people around the track, and who thronged the windows and roofs of the adjoining houses. But, after one or two laps, I looked out and saw him walking at quite six miles an hour, responding yet more and more to the roars of applause, and thus he completed the last mile of the fifteen hundred.

"A few minutes afterwards, his physical and mental condition were as follows: He was sitting, until I laid him down, on the couch used as a bed; the head and chest were bathed in a clammy sweat, and the pulse had risen to 88, was fairly strong and quite regular, but very compressible. The heart's action corresponded, being strong and regular, and there was no murmur at either the base or apex. The temperature, as indicated by the thermometer in the mouth, registered 106.1°. Some slight congestion of the palpebral conjunctivæ might be observed, but the pupils were not dilated, and responded to the influence of light. He was quite rational and calm; the expression of his face was not haggard, nor was there either pallidity or suffusion, the skin having the brownish appearance produced by exposure to the sun and air. He looked drowsy, and readily dropped asleep, but awoke as readily. Such being the only notable particulars with regard to the general condition, little was discovered on inspecting the limbs. The calf of the left leg presented a large varicose patch, the external saphena vein having become dilated and tortuous into an eel-like form. Just below the knee a much dilated sacculus of the vein threatened to burst. This state, of which there was, I understand, scarcely a trace at the beginning of the walk, had been increasing daily for the last two weeks, and, by my request, a strong elastic stocking was worn with great comfort; indeed, but for the relief thus obtained in walking, and the sleep thus procured, I have no doubt that Gale could not have accomplished his arduous undertaking. Beyond this lesion the legs were sound, there being no œdema and no swelling of the knees or ankle-joints. There had been no painful spasmodic affections, which so much embarrassed Captain Barclay in his famous but far less formidable feat. Lastly, the feet were sound, without blister or abrasion. The toes have the marked retroversion often seen in pedestrians; and, after twenty years of previous successes, this sign characterizes the feet of the champion of the 'cinder-path.'"

— According to Dr. Benecke, of Marburg, *Deutsches Archiv für klinische Medicin*, Band 48, Heft 1, the formation of gall-stones may have its cause in one of two conditions: either there is a relative excess of the formation of cholesterine in the liver, so that this is separated in the gall-bladder just as acid urate of soda or crystalline uric acid is in concentrated urine, or there is a lack

of the biliary salts which maintain the solution just as urates or crystalline uric acid are separated in the urinary passages by a diminution of soda or an excess of phosphoric acid in the urine.

He makes the following conclusions : —

(1.) The occurrence of gall-stones coincides in the majority of cases (about seventy per cent.) with the presence of atheromatous degeneration of the arteries.

(2.) Atheromatous degeneration of arteries (without gall-stones) is observed much oftener than gall-stones.

(3.) Gall-stones are of much more frequent occurrence in females than in males ; degeneration of arteries takes place with about equal frequency in both sexes.

(4.) The occurrence of gall-stones is generally observed at an earlier period of life (from twenty years on) than the atheromatous degeneration of arteries.

(5.) Gall-stones are found in relatively greater frequency in patients suffering from carcinoma and in nervous congestion, or where the liver is very full of blood.

(6.) The occurrence of gall-stones and of atheromatous degeneration of arteries is relatively very often accompanied by an abundant formation of fat.



PROFESSOR HITCHCOCK ON PHYSICAL EDUCATION.

MESSRS. EDITORS, — Under this caption there appeared in the *JOURNAL* for October 25th an article professing to be a criticism of a paper on Hygiene at Amherst College, read by Dr. Edward Hitchcock before the American Public Health Association in September of the present year.

Dr. Hitchcock's method, the manner in which he advocates it, and his popular treatment of human anatomy and physiology are made the subject of unfavorable comment. It is intimated that the results he professes to obtain would hardly be likely to follow the amount of drill he exacts from the students, and that he claims too much for the little he is said to do.

While personally disagreeing with the critic, and still thinking that a careful perusal of Dr. Hitchcock's paper will induce others to assert the same opinion, the present writer admits that, with reference to the points above mentioned, men equally disposed to be fair might arrive at varying conclusions.

But it seems to him that in characterizing the inscription on the walls of the Amherst gymnasium as verbose, disgusting, and a subject for mirth and derision, as also in accusing Dr. Hitchcock of writing his whole report in a "canting style," the bounds of fair and legitimate criticism are transcended.

To those willing to admit the existence of a personal Creator, and the direct lity of the created for the proper use of the faculties with which they are gifted and the privileges they enjoy, the words of Professor Owen, which form the inscription alluded to, will appear fitly chosen and properly placed in the position they occupy.

As one having long had a thorough knowledge of and a sincere esteem for Dr. Hitchcock, the present writer indignantly repels the accusation that the report under discussion is characterized by any approach to cant, or that Dr. Hitch-

cock has stated aught in it but his simple belief and honest conclusions. This is no place for a personal eulogium, but his many other friends will fully agree that few men have a better claim to the attributes of utter honesty and simple sincerity.

H. D.

BOSTON, October 29, 1877.

We reproduce the passage in Professor Hitchcock's paper which we called an instance of its canting style. Our readers may judge between us and H. D. whether it is so or not.

"The military method, though a little used, is not sought after. It seems idle to talk about military rules and life where there is no military authority to carry out the regulations. Were the college a state or government institution, a military department would be in place and possibly sustained and prospered. But to talk about military rules and methods without the authority of the ball and chain, the guard-house, or power of life and death in the officers, seems worse than idle. College students will generally chafe under that rule which degrades them from the agents of free will and choice to a mere live machine, except when 'the country calls.'"

It is not attacking religion to question the propriety of posting religious sentiments in public places. We do not think that in telling the truth, as we see it, we have passed the bounds of legitimate criticism. — Eds.

WHERE TO GO IN SUMMER.

BEFORE selecting a country residence for the hot season it is well to learn something of the sanitary conditions of the place, and as these are represented in the long run in the bills of mortality, it would be well to look these bills over, were they accurate and to be got at without trouble. There are other ways of obtaining information, less satisfactory, but more frequently resorted to. The landlord of the principal inn or hotel may be considered good authority. He will probably inform his visitor that the locality is remarkably healthy. There are fevers and dysenteries *in one of the next towns*, it is true (where there is an opposition hotel), but *this* place is singularly free from such diseases. The clergyman will say there is cause to be thankful that his particular village has been providentially spared from the pestilence that walketh in darkness and the destruction that wasteth at noonday. The local historian assures his reader that the atmosphere of the place is salubrious and the epidemics which have scourged so many of our towns are unknown. Several of the inhabitants, he says, have attained extraordinary longevity, giving instances in Roman numerals, thus: Widow Leevins died in 1869, *Æt.* XCIIL., and the late venerable Madam Overdue deceased in February 1847, at the great age of XCVIII. The physician will probably allow that there is a little sickness now and then, as in other places, during the later summer and earlier autumn months, but *only* now and then, mild and manageable, too (under his treatment, of course), in these last years. But unfortunately two of your neighbors went there in June for a summer's enjoyment and came back in October

by the freight train, and you are not quite satisfied with these florid statements of the local authorities. You would like something a little more specific before planting yourself in a place where you have no intention, if you can help it, of taking permanent root, and from which you do not wish to be sent home by the unpleasant mode of transit just referred to.

There is an agreeable and easy way of getting at some of the facts which may guide one in his determination.

It is a very cheerful thing — at least it is not very saddening — to stroll through a burial-ground where you have laid no one you love and do not expect to be buried yourself. The visitor feels somewhat as a criminal beyond the reach of extradition treaties may be supposed to feel in going through a foreign prison. He is not wanted *there*, at any rate. And so the death's heads and the hourglasses and the warning line

As I am now so you must be,

and the rest, have not the solemnizing effect on the stranger wandering through the village churchyard which they have on the native who knows that one of these days he is to be lowered deep down below the turf on which he is standing.

The literature of the grave-stones rewards curiosity and stimulates inquiry. Where the poetry comes from that is to be read on these perpendicular tablets is as hard to guess as it is to tell who the authors are from whose effusions our members of Congress get the verses with which they variegated their rhetorical periods. A good deal of the grave-stone verse may be extracted from strange unknown hymn-books; a portion may be original with some of the mourning relatives or friends; now and then perhaps the minister of the parish furnishes a couplet or a quatrain; at any rate there is no use in hunting for many of the verses one finds, thinking to come upon them in any of the usual collections. Once in a while one is startled by a simple exclamation of grief, of regret, of love, of admiration, so spontaneous and truthful in its artless expression, that it reaches the inner chords of sympathy and relieves the monotony of our labor with an emotion.

There is one inscription in this burial-ground which impressed me all the more, perhaps, for not having been written in high-school grammar. It sounds as if a mother had said it, or tried to say it, over her daughter's grave; the stone tells us the child was twelve years and seven months old.

THE SWEETEST FLOWER THAT EVER I SEE
THE LORD SEE FIT TO TAKE FROM ME.

Is not this quite as touching as Lamartine's *Jeune fille et jeune fleur*?

It is a pleasure, then, to stroll through a village burial place and study the inscriptions on its monuments. Now for the use to be made of it for practical purposes. Grave-stones, which have not the best reputation for telling the truth about character, may be pretty safely trusted for the sex, the age, and the date of death of the departed whom they commemorate. Suppose that instead of consulting the landlord, the clergyman, the local historian, or the village physician, you go to the burial-ground of the place where you think of passing your summer and take the mortuary record of the whole or a portion

of it, — the last filled portion of course, — say a hundred grave-stones, or those of the last ten or twenty years. You will probably have a fairer expression of the mortality of that immediate locality than any church or town record would afford you. There is a certain selection, it is true. Not everybody that dies has a grave-stone; but most of the decent inhabitants do, from the babe of a few months up to the centenarian, if the place can boast of one, and you can study their brief obituaries without asking leave of anybody.

This is what I have done for the burial place of the village of "Beverly Farms," Essex County, Massachusetts, where I have been passing a part of the summer and autumn.

Let me premise that the village settlement in question is quite apart from the principal centre of the town of Beverly, which is thickly settled and has a very large burial-ground of its own. There are hardly any foreign names to be found in the small cemetery at Beverly Farms. The permanent population of this village is chiefly native, Protestant, agricultural, orderly, temperate, church-going, living in houses of comfortable aspect. There appears to be a good deal of intermarrying between a few of the resident families. The place is much sought during the warm season by wealthy persons from the cities, who have built costly residences in the most favored localities, attracted by the beautiful sea-shore, the cooling winds, the charming drives, the wonderfully varied and picturesque rocky surface, and the noble forests of pine and oak with which the soil is largely covered. It should be mentioned among its hygienic conditions that the water from Wenham Lake is carried to all its houses.

The first burial in the little cemetery was, as I was informed by an old inhabitant, on the 23d of August, 1840. The latest I found was dated March 7th, 1876. A few inscriptions of earlier date show that the remains of those to whom they relate were removed from some other locality.

I found 183 deaths recorded on the stones, which are with few exceptions of white marble. This number does not include those who died in other countries or at sea, or previously to the year 1840. I have tabulated the inscriptions and will give some of the results obtained from them, with certain other facts of vital statistics with which they may be compared.

The 183 deaths recorded are spread over a period of thirty-six years, and would give an annual average of a little more than five interments. But in 1850 there were eleven, in 1851 ten, in 1857 ten, while in 1841 and in 1875 there was but one for each year.

The mortality by months and quarters is more significant: —

Jan. 8	Feb. 24	March. 14	April. 10	May. 19	June. 13	July. 13	Aug. 12	Sept. 23	Oct. 20	Nov. 10	Dec. 17
1st quarter.			2d quarter.			3d quarter.			4th quarter.		
46			42			48			47		

Arranging the months in the order of their mortality and comparing this order with that of the months as given in the Thirty-Fifth Registration Report of Massachusetts for 1876 and for the twelve years 1865-1876, we have, —

Burial-Ground 1840-1876.	State Report 1876.	State Report 1865-1876.
1. February.	1. August.	1. August.
2. September	2. July.	2. September.
3. October.	3. March.	3. July.
4. May.	4. January.	4. March.
5. December.	5. September.	5. October.
6. March.	6. April.	6. January.
{ 7. June.	7. February.	7. December.
{ 8. July.	8. October.	8. April.
9. August.	9. December.	9. May.
{ 10. April.	10. May.	10. February.
{ 11. November.	11. November.	11. November.
12. January.	12. June.	12. June.

COMPARISON BY QUARTERS OF THE YEAR. ORDER OF MORTALITY, BEGINNING WITH
‘THE HIGHEST.

Burial-Ground 1840-1876.	Massachusetts. 1876 and 1867-1876.	England. 1868-1875.
3d (July-Sept.)	3d	1st
4th (Oct.-Dec.)	1st	2d
1st (Jan.-March.)	4th	4th
2d (April-June.)	2d	3d

Sex. — Eighty-four males, 99 females. State average from 4 per cent. females in excess to 1 per cent. males in excess, in different years.

Age. — Average 43 years. Males, average 46; females, 41. Youngest child, 3 months. Oldest person, a female, 99 years. State average for ten years, 29 years 76 hundredths.

DEATHS BY AGE AND SEX.

M. F.			M. F.			M. F.		
Under 1 year	14....5	9	10 to 15 years	7....1	6	50 to 60 years	12....6	6
1 to 2 years	3....2	1	15 to 20 “	10....4	6	60 to 70 “	22....9	13
2 to 3 “	5....2	3	20 to 30 “	23...14	14	70 to 80 “	25...14	11
3 to 4 “	2....1	1	30 to 40 “	10....4	6	80 to 90 “	14....9	5
4 to 5 “	4....3	1	40 to 50 “	17....6	11	90 to 99 “	5....1	4
5 to 10 “	5....2	3						

If we compare the deaths under one year with those for the State in 1876, we find the percentage is about as one to three. Comparing those under five years in the same way, the percentage is seen to be less than half that of the State return.

The average age by months was as here given : —

Jan.	Feb.	March.	April.	May.	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.
53	45	47	62	46	43	40	34	31	35	46	45

A few facts resulting from examination of my tables and their comparison with others may be pointed out.

There does not seem to have been any eminently fatal single month or year. Four persons were buried in October, 1860, but in that year there were only seven deaths. Eleven were buried in the year 1850, but in the most fatal month of that year (April) there were only three deaths.

The fact that February was the most fatal month in the whole series taken collectively is exceptional, that month standing seventh and tenth, in the two State Reports cited, in order of mortality.

The position of August is remarkable; ninth on the burial-ground list, and first in the two other tables.

The proportion of female deaths to male (99 to 84) is unusually large. In the town of Beverly from 1865 to 1876 it was 673 to 642, and in the year 1876 the deaths of males were in excess, 68 to 60, in the same town.

The average age, 43, was remarkably in excess of that for the deaths of the whole town of Beverly during the year 1876, 33 years and a half, nearly.

The large number of deaths between 70 and 80 (25), nearly one seventh of the whole number, may be compared with the Massachusetts returns, which give about one twelfth for the same decade. Under the age of five years the burial-ground gives one death to between six and seven of all ages, the State Report for 1876 more than one in three.

Many other facts not without significance may be found by examination of the abridged record I have given, still more of the full tables. They show very well, so far as they go, for this particular locality, which evidently has a death-rate of its own quite different from that of the town of which it is a part. If we could have other records of the same sort from the church-yards of favorite places of resort, it would be interesting, I think, to compare their results, and might have some influence in determining the choice of summer residences.

These lapidary statistics from a village on the seashore may perhaps induce some visitor of the mountain regions or the river-valleys — that of the Connecticut or the Housatonic, for instance — to do as much for one of their burial-places as I have done for that of Beverly Farms, and give a significance to my figures which without such means of comparison they can hardly claim.

O. W. H.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING OCTOBER 20, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	534	25.78	27.46
Philadelphia	850,856			22.88
Brooklyn	527,830	185	18.23	24.31
Chicago	420,000	139	17.21	20.41
Boston	363,940	123	17.57	23.39
Providence	103,000	38	19.18	18.34
Worcester	52,977	14	13.74	22.00
Lowell	53,678	19	18.41	22.21
Cambridge	51,572	19	19.16	20.54
Fall River	50,372	31	32.00	22.04
Lawrence	37,626			23.32
Lynn	34,524	21	31.63	21.37
Springfield	32,976	8	12.62	19.69
Salem	26,739	6	11.67	23.57

OBITUARY. — At a meeting of the Walker Society for Medical Improvement, held on the 4th of October, the following resolutions on the death of Dr. George H. W. Herrick, of this district, were passed : —

Resolved, That in the death of Dr. George H. W. Herrick the members of this society have to deplore the loss of one of their original members, and one whose presence at their social or official circle was always hailed with delight.

Resolved, That this society humbly bow in submission, but with saddened hearts, to the Almighty, who in his inscrutable wisdom has suddenly stricken down in the meridian of his career one of its most gifted and beloved members, the country losing a citizen who both in war and in peace contributed his talents and energies with patriotic zeal in her behalf.

Resolved, That we ever cherish the memory of our late esteemed associate, and tender to his family our warmest sympathy in this trying ordeal. That while we are powerless to assuage their grief, we commend them to the sweet memories of his useful life, and to the tender mercies of Him in whom he trusted who has "gone before."

Resolved, That a copy of these resolutions be published in the medical journal of this city, and a copy be transmitted to the family of the deceased.

M. A. MORRIS, *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place. Dr. A. L. Mason will read a paper upon Cases of Pleurisy.

MILITARY APPOINTMENTS. — *Surgeon, rank of Major* : May 28, 1877, George T. Perkins, M. D., of Boston, formerly of the First Regiment of Infantry, M. V. M., to be Surgeon of the Seventh Battalion of Infantry, M. V. M., to fill an original vacancy.

Assistant Surgeons, rank of Lieutenants : June 1, 1877, William Appleton, M. D., of Boston, of Battery A, Light Artillery, M. V. M., vice Dunn, transferred.

June 13, 1877, George Stedman, M. D., of Boston, of the Fourth Battalion of Infantry, M. V. M., to fill an original vacancy.

June 19, 1877, Charles H. Williams, M. D., of Boston, of the First Corps of Cadets, M. V. M., to fill an original vacancy.

June 20, 1877, George M. Read, M. D., of South Deerfield, of the Second Battalion of Infantry, M. V. M., to fill an original vacancy.

July 6, 1877, Robert M. Lawrence, M. D., of Boston, of the First Battalion of Infantry, M. V. M., to fill an original vacancy.

August 1, 1877, Edward O. Otis, M. D., of Boston, of the First Battalion of Light Artillery, M. V. M., vice Giddings, resigned and discharged.

August 3, 1877, Uranus O. B. Wingate, M. D., of Wellesley, of the Seventh Battalion of Infantry, M. V. M., to fill an original vacancy.

August 6, 1877, David Coggin, M. D., of Salem, of the Second Corps of Cadets, M. V. M., to fill an original vacancy.

The following are the vacancies at present existing in the medical staff of the militia : —
Assistant surgeon Co. F, unattached Cavalry.

“ “ Third Battalion of Infantry.
“ “ Ninth “ “ “

BOOKS AND PAMPHLETS RECEIVED. — Should Comparative Anatomy be included in a Medical Course? By Burt G. Wilder, M. D. (Reprinted from the New York Medical Journal, October.)

The Morphology of the Skull. By W. K. Parker, F. R. S., and G. T. Bettany, M. A. London : Macmillan & Co. 1877. (For sale by A. Williams & Co.)

The Spas of Aix-les-Bains and Marlioz, Savoy. By Francis Bertier, M. D., Paris. London : J. & A. Churchill. 1877.

Outlines of Modern Chemistry, Organic. By C. Gilbert Wheeler. Chicago : Jansen, McClurg, & Co. 1877.

Transactions of the Minnesota State Medical Society. 1877.

Transactions of the New York Pathological Society. Vol. II. Edited by John C. Peters, M. D. New York : Printed for the Society by William Wood & Co. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, NOVEMBER 8, 1877. — NO. 19

A CASE OF EXTRA-UTERINE FŒTATION.¹

BY J. L. HILDRETH, M. D., CAMBRIDGE.

Mrs. S., age thirty; born in Maine; married eleven years; general health always good; no severe sickness; no uterine disease; pregnant twice, both deliveries normal; oldest child nine years, youngest five, both living and well; family history good.

When she menstruated she always had a great deal of pain for the twenty-four hours before the show made its appearance; the time often varied three or four days, rarely more than that. Ten months previous she did not menstruate at all at the usual time, but the next month it was in every way normal. For this severe pain, which troubled her for the first twenty-four or forty-eight hours, she had for several years taken large draughts of an infusion of savin. From its use she was sure that the flow came earlier and the pain was lessened. I could not find out accurately how much she took, but judge from six to eight ounces of the infusion which she made, taking that quantity several times in the course of the day. I do not think her intent was to prevent pregnancy so much as to be relieved from pain.

June 5th, or thereabouts, she menstruated normally.

July 5th it was wanting, but without any discomfort or other symptoms which made her think she was pregnant.

Two weeks later the flow came on, and she thought nothing of it, except that it had been delayed for two weeks, just as before it had been postponed for a few days. Before it came there were the usual symptoms, — pain, backache, etc., — and she resorted to the savin, as was her custom. Menstruation continued a week, was less in quantity, and sometimes would be entirely gone for a greater part of a day. At the end of a week a clot came away, and with it something unusual. Upon examining it she found what she described to her husband as a piece of flesh.

From this she inferred that the cause of the two weeks' delay in menstruating the previous month was due to pregnancy, and that she was now all right, as she had miscarried. As far as the husband could

¹ Read before the Boston Society for Medical Observation, April 2, 1877.

remember, the scanty flow, the delay of two weeks in the time that it made its appearance, and the membrane found were the only things different from her usual menstruations.

From the completion of this supposed period of menstruation till August 13th she was miserable in many ways. Every few days she was troubled with colicky pain in the bowels. These pains she described as such as she would have from having taken a very active cathartic, and they often seemed to pass away after several free passages from the bowels. Her husband noticed that she had little appetite, that she lost flesh, and was fretful and easily disturbed. He suggested that for these bad feelings she should consult me, and told her he thought she was not well of her miscarriage. Some of these attacks of pain he said were very severe, not confined to any particular part of the bowels, not accompanied with vomiting, but almost always with faintness and loss of color, and whilst they lasted she kept the lounge, applied warmth to the bowels, and used hot ginger tea freely. But for all this she attended to her household duties as usual, and rarely if ever was absent from the table at meal-time.

Wednesday, August 11th, she had had more of these colicky pains than usual, and they had been followed or accompanied by such free purging that when her clothes were removed that evening, in preparing to go to bed, she called her husband's attention to the depressed condition of the bowels, and remarked that they were quite tender and sore upon the left side.

Thursday — the next day — she said how much better she was, and was inclined to attribute this to the free emptying of the bowels the day before. That night, upon retiring, she told her husband that she was never better in her life, as she had neither an ache nor a pain.

Friday, upon rising, she noticed a slight show, and said she was again unwell. She also remarked that it was strange it had come on this time without pain, as it had never done so before. During most of the day it was present; that night she slept well, and not till rising the next day, which was Saturday, did she experience any of those "unwell" pains which she usually had before and for the first few hours after the show came on.

During the day (Saturday) these unwell pains came to be so severe that she resorted to the savin. How much she took it is difficult to make out with any certainty. She said she made the tea extra strong, and took large draughts and took it often. The latter part of the day these pains were "terrible," as she described them, and when her husband returned from the office at night she told him she was "dreadful sick."

About seven o'clock, all at once she cried out with severe pain, pressed her hands upon her bowels, and fainted. Her husband got her

upon a lounge, sent for a physician, and I saw her about an hour afterwards. At that time she was almost pulseless ; extremities cold ; great pallor ; she could talk but little, but said all the trouble was in the bowels. Stimulants were freely given, heat and friction were applied to the extremities, and one eighth of a grain of morphia was given subcutaneously. She gradually rallied, was somewhat relieved of the pain, and an hour later gave me a greater part of what I have related as the previous history in the case.

At that time I made a careful examination of the abdomen, and also examined her *per vaginam*. The abdomen was flat, but evidently contained considerable fluid. There was at this time a slight flow from the vagina, but by this examination alone I could not detect the presence of a fluid in the peritoneal cavity. The ovaries were normal to the touch ; the uterus was not tender, and was movable. In fact, by the vaginal examination nothing was elicited that pointed to the source of the hæmorrhage.

From the sudden attack, the great pallor, the fainting, and the condition of collapse when I first saw her, I had no doubt that she had lost a great deal of blood. The physical signs upon examining the abdomen pointed to its being in the peritoneal cavity. Then the irregular menstruation, the colicky pains, and the supposed miscarriage indicated pregnancy of some kind as being more likely to be its cause than any other condition. Another physician saw her with me at about eleven o'clock, and confirmed my diagnosis that there was fluid in the peritoneal cavity, that the condition of the woman pointed to its being blood in all probability, and he also thought extra-uterine pregnancy was to be seriously considered.

These attacks of violent pain in the abdomen, with fainting, great pallor, feeble pulse, and general condition of collapse, continued at intervals of one or two hours until half past two Sunday morning, when death took place.

The latter part of the time she vomited a great deal, but the pain in the bowels was not so severe as at the first. Stimulants, heat, and morphia subcutaneously constituted the principal part of the treatment.

Autopsy, twelve hours after death. Body well nourished ; rigor mortis moderate. Head and spinal cord not examined.

Lungs, heart, liver, and other abdominal organs healthy.

The peritoneal cavity contained, by estimation, three and three fourths quarts of clotted blood ; peritonæum normal in color ; right ovary and broad ligament healthy. The uterus measured three and three fourths inches in length by two and one half in breadth. Its cavity was empty ; there was no mucous plug closing the cervical canal.

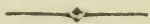
The left ovary was about two and one fourth inches long by one and one half in width, and one and one fourth from above downwards. Upon

its upper, inner, and posterior surface there was a rupture of its surface large enough to admit a small crow's quill. This upon opening being enlarged was found to contain a cyst-like body about three fourths of an inch in diameter. This sac was quite firmly attached to the substance of the ovary, and upon being removed presented a velvety appearance externally.

When this sac was opened it was found filled with a clear watery fluid, with a kidney-shaped body about three eighths of an inch long floating in it, and seeming to be attached to its walls.

The sac and kidney-shaped body were examined by the naked eye alone, as the only condition upon which an autopsy could be obtained was by promising that nothing whatever should be carried away.

That this kidney-shaped body within the sac which was removed from the substance of the ovary was a foetus I have not the slightest doubt, but had it been examined carefully with a glass by an expert, and pronounced to be such, this confirmation would make the case a great deal stronger.



A CASE OF SOFTENING OF THE BRAIN.

BY EDWARD L. PARKS, M. D.

AN account of a case of brain softening, which ended a short time ago under my care at Mattapoisett, seems to me worthy of publication for several reasons, especially the youth of the patient, who was a young woman nineteen years of age, and the cause of her disease, — mental suffering and excitement dependent upon neglect and ill-treatment.

She was in childhood, according to her mother's statement, vigorous in mind and body. Her married sister and her brother are intelligent and healthy. Her life was somewhat irregular, and about two years ago she became pregnant by a young man who married her immediately upon the discovery of her condition. The child was born prematurely, after a fright, and did not survive. Dr. Sparrow attended her in her confinement, and about a year ago treated her for sleeplessness, which, he tells me, he relieved without difficulty. Some time after marriage her husband visited California, whence he returned with a gonorrhœa, and this he afterwards charged his wife with having communicated to him. Though living in the same town he refused to visit her. Her mother graphically describes her mental state during the last two years by saying, "Ever since her marriage she has been plagued almost to death." She was treated not long ago by an irregular practitioner of New Bedford for "retroversion of the womb." I have been unable to find a family history of syphilis, alcoholism, or insanity, and I believe her to have been free from them, for until after she came under

my observation, about ten days before death, she was never insane, though "not quite herself."

When called to visit her, early in the morning, I was told that she had not slept the previous week, and had taken very little food. Menstruation had ceased a few days before. She was restless to a degree, with hallucinations, and there were slight choreic movements of the right hand and foot. She recognized those about her, and answered questions correctly. Pupils widely dilated, pulse 120, small and weak. Formication and cutaneous hyperæsthesia distinctly marked. She was ordered to have immediately as much beef broth as she could be induced to take, and chloral, of which she received nearly a drachm during the forenoon without sleep. I wrote at the same time for a tonic of iron, quinine, and strychnia, and for bromide of potassium in solution, twenty grains to be taken every night at bedtime. At noon I gave hypodermically one fourth of a grain of morphia, and, word having been sent me that she slept, did not visit her again that day.

She was treated the first three days of my attendance by nourishing food, gentle alcoholic stimulation, and quietude, with opium and morphia given plenteously. She occasionally slept an hour or two at a time. I was hastily summoned early in the morning of the third day to find her maniacal. She was promptly quieted by inhalations of ether, and I decided to examine the womb carefully as soon as possible, to learn if there was any acute lesion therein to cause the insanity. The os was found to be highly congested and everted, and a sound entered with difficulty. Blood was taken freely by leeches, beside punctures, and scarification of the uterine canal, previously dilated. Nitrate of silver and hot astringent washes were afterwards applied. For about two days more the general treatment was unchanged, except that I was obliged to administer ether two or three times every twenty-four hours, especially early in the mornings and late in the afternoons. One afternoon her language suddenly became obscene, and the same phrases were repeated over and over again. The gravity of these symptoms induced me to seek professional advice, and Dr. F. H. Hooper, of New Bedford, kindly gave me much valuable assistance. I became assured that the case was hopeless as to saving life or sanity, and not dependent upon uterine disease.

Her family were unwilling to send her to an asylum unless I believed her curable. Frankly declaring my belief that her life would soon end, I consented to treat her at her home. She was fed by the mouth as long as possible with beef tea, ice-cream, and wine, and afterwards by the rectum. Morphia and ether were used with caution. Ice applied to the head was grateful. She died from asthenia, respiration becoming labored at the last.

Post-mortem examination was made twenty hours after death, in the

presence of Dr. Sparrow. Emaciation extreme, eyes deeply sunken, veins prominent, but no diffused discoloration. The cranial and abdominal cavities were examined. Brain and membranes tightly packed in their case; membranes congested. They were removed with great difficulty, the dura mater at the base of the brain being very dense, and the brain so soft as to break down at the slightest touch. The bladder was full of urine, and congested. Womb in normal position. Two serous sacs as large as peas were observed in folds of broad ligament. Internal os constricted. Os tincæ and upper part of vagina blackened. Bowels distended with air, but otherwise nearly empty. Appendiculæ epiploicæ contained very little fat. Nothing else noteworthy about abdominal viscera. An examination of the spinal cord was not practicable. With this exception all the parts were examined which seemed to bear upon the case. The brain and membranes and uterus and appendages were removed for further examination, and were at once put into a mixture of alcohol and water, one part to three. The next day, on attempting to dissect the brain, it was found throughout to be so softened that its main anatomical relations were scarcely recognizable.

The uterus was two and a half inches long without, two inches within. Right ovary had at its summit a pouting cicatrix, and an incision through its substance showed Graafian vesicles nearly mature. The surface of the left ovary was smooth. It seems to me that in her case the ovaries acted alternately. The treatises on physiology which I have consulted are silent upon this subject, and I do not know whether there is any rule.

From the history of the case I am led to believe it to have been one of general red softening of the brain (Da Costa, Bauduy). The authors just quoted do not enter as fully as I should wish into the differences between red softening and atrophic or white softening, — brain necrosis of Niemeyer. Flint, in his systematic treatise on the Practice of Medicine, describes softening as Circumscribed and Inflammatory. But whatever the variety may have been, I am satisfied that the disease had made such progress when I was called to it that speedy death was inevitable.

RECENT PROGRESS IN OTOTOLOGY.¹

BY J. ORNE GREEN, M. D.

Inspection of the Naso-Pharynx from the Nostrils. — Although the inspection of the nose and naso-pharyngeal cavity through the nostrils has been used to a limited extent for many years, it has never obtained a very extended usefulness except in diseases of the anterior third of

¹ Concluded from page 504.

the nose. The condition of the naso-pharynx was considered to be much more satisfactorily determined by palpation with the finger or by rhinoscopy. The various specula for examining through the nostrils merely served to distend the opening of the nostrils and to show the first inch of the nose, except in a few rare cases of very large and very straight nasal passages, when sometimes a dim view could be obtained of the deeper parts of the nose and naso-pharyngeal cavity. Zaufal¹ now proposes to extend the method of examination through the nostrils by using long, straight tubes, which, being passed all the way into the naso-pharyngeal cavity, allow of a direct inspection of the different parts of that cavity. He does not claim for this method that it will supersede the already existing modes of examination, but merely that it is a useful, additional means of getting at the naso-pharynx for examination or operation, which may sometimes be used when the other methods are inapplicable, it being a well-known fact that there are cases in which it is impossible to get a rhinoscopic view, and also in which palpation does not give the desired information.

Zaufal's instruments consist of a series of five specula from 10 to 11.5 cm. long, made to nest together, and having a calibre from 3 to 7 mm. in diameter. The external end is funnel-shaped, resembling Gruber's ear-speculum, and the interior of the tube is polished for good reflection; they are made of silver or hard rubber, and in shape are round. For illumination of this tube the common laryngoscopic reflector is used, with either artificial or sun light. The patient is directed to hold the head erect, so that the floor of the nostril is horizontal, and the speculum is then introduced by a slight rotatory motion along the lower nasal passage till it enters the naso-pharyngeal cavity, its passage being watched through the tube. In addition to these specula Zaufal has also found other instruments necessary, — long, delicate forceps for wiping away secretion and blood, long probes, and for operations bivalve specula which can be opened slightly. By this method he claims to have obtained satisfactory views in many cases of the mouths of the Eustachian tubes, of the naso-pharyngeal walls, and of the points of insertion of nasal and pharyngeal polypi, and has also made applications and performed operations. The advantages claimed for this method, besides being an addition to our means of examination, are that this gives a direct view of the parts examined, while rhinoscopy gives an inverse image; that the foreshortening of the rhinoscopic image is avoided; and that the movable parts, palate, mouths of the Eustachian tubes, and posterior pharyngeal wall, are seen in unimpeded action. It can also be often used in cases where rhinoscopy is impossible from extreme sensitiveness of the mucous membrane, from enlarged tonsils, from abscess, œdema, or emphysema of the soft palate, or adhesion of the soft palate to the posterior pharyngeal wall.

¹ Archiv für Ohrenheilkunde, vol xii., part 4.

Effect of Amyl-Nitrite on Tinnitus Aurium. — On account of the action of amyl-nitrite on the vaso-motor nerves, Michael¹ was led to try its effect in cases of tinnitus aurium. Of thirty-three cases in which it was used, more or less improvement was reported in nineteen; in three of these the tinnitus entirely disappeared from one ear; in four of the improved cases there was a decided gain in the hearing; of three cases of labyrinthine disease two were benefited. From one to five drops were used by inhalation, and the inhalation continued during the flushing of the face and injection of the conjunctivæ, but suspended on the appearance of vertigo. In all the cases which were benefited the tinnitus was increased during the inhalation, but as the flushing of the face disappeared it diminished and became less than before the application. The improvement was of variable duration from one hour, the shortest time, to three months, the longest.

These observations of Michael on the action of this agent upon tinnitus are partially confirmed by Weber-Liel,² who has tried it in a number of cases and in two obtained a decided improvement. In the first there was a marked improvement in the hearing but none in the tinnitus; in the other a diminution in the tinnitus but no gain in the hearing.

Urbantschitsch,³ who has also tried this remedy, has seen beneficial results from it in tinnitus, but calls attention to some unpleasant symptoms which can be produced. He has observed several cases in which vertigo continued for several hours after the inhalation, and one in which the inhalation was followed by collapse of some minutes' duration and by hemiplegia of a very short duration. On this account he advises the use of only one drop at first, either pure or mixed with alcohol, and held a short distance from the nose; after a few inhalations the application should be suspended, as the action of the drug increases for several seconds and may come on very suddenly. If no particular susceptibility is shown, the inhalation is continued till slowness of the pulse, dizziness, etc., are noticed. Repetitions of the application require the same cautions as at first, since it is found that the action on the same individual differs at different times.

Deformities. — Four new cases of malformed ears are reported by Bremer,⁴ one of which is of interest as it involved both ears and was associated with malformations, or rather defective development of the facial bones. In a boy of thirteen but a small portion of the helix and the lobules were present; the lower edge of the orbits was wanting, the zygomatic process of the malar bone was very short, and the zygo-

¹ Archives of Ophthalmology and Otology, vol. v., page 4.

² Monatschrift für Ohrenheilkunde, No. 3, 1877.

³ Wiener med. Presse, 1877.

⁴ Aftryk af nord. med. Archiv, vol ix., 1877. Monatschrift für Ohrenheilkunde, No. 9, 1877.

matic apophysis of the temporal was wanting, so that the temporal muscle was distinctly felt. The lower jaw was articulated nearly as far back as the mastoid, so that the existence of any meatus or tympanum seemed impossible, but it was asserted that the boy could hear loudly spoken words. Accurate tests of this fact were not, however, made.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

JUNE 18, 1877. *Anosmia following a Blow on the Occiput.* — DR. KNIGHT read a paper upon this subject.¹

DR. WEBBER remarked upon the extreme rarity of a fracture of the skull taking place anterior to the sella turcica; he said it usually passed through that portion. He had never seen a fracture which implicated the first pair of nerves, but as these are very soft they are more easily ruptured than any other nerves of the same size, and the fibres which pass from the bulb through the ethmoid are very readily torn off. He thought that in those cases of deafness associated with loss of smell, probably a rupture of these delicate nerves had taken place from the shock, or there had been a hæmorrhage which had torn them off. He doubted if the brain substance could be driven, to any great extent, over the rough surface beneath without causing marked lesion of the brain itself.

DR. KNIGHT said that in cases of recovery from anosmia, after fracture of the skull, the anosmia very likely depended upon hæmorrhage in the vicinity of the olfactory bulbs. In cases where the anosmia remained there may have been a slight fracture in the cribriform plate of the ethmoid, or a rupture of the nerves as suggested by Ogle.

Congenital Varus. — DR. BRADFORD showed a child about two years of age whom he was treating for congenital varus. When first seen, one year ago, the child was walking on the outer edge of the foot, each step increasing the deformity. After a month's treatment according to Mr. Barwell's method of elastic extension, the foot rotated, and the child now walks on the whole of the sole. There has been no relapse, although there has been no treatment for six months. For a safeguard and to correct a slight tendency of the great toe to drop inward, a light wearing shoe was applied and shown.

Caries of the Vertebrae. — DR. TILDEN showed a specimen of extreme caries of the vertebrae, and gave the following history of the case: The patient died at the age of seventeen. He was perfectly well and strong until eight months old, when he fell out of a baby carriage, striking his back upon a piece of board. Vomiting supervened, and from that time he was disinclined to bear his weight upon his feet. Three months later a prominence was detected over the spine. For four years after he was unable to walk, but from that time till he was thirteen years of age he remained in good health, and walked without

¹ See JOURNAL, vol. xcvii., No. 11, page 293.

difficulty. Then a swelling appeared outside the left buttock, which was tapped just behind the great trochanter of the left femur three times in nine weeks, and pus each time was withdrawn. After this he continued well for two years, acting as cash boy during that period. Two years ago last January pus again formed, acute inflammation of the sac followed tapping, and death ensued after a lingering illness marked by the formation of many successive abscesses and steady progress of the disease. At no time did he have pain in the abdomen, and there was never any paralysis.

DR. TARBELL, on examining the specimen, remarked upon the non-appearance of any attempt at repair, and also upon the fact that there had been no paralysis, although the bodies of five or six of the vertebræ were entirely destroyed.

DR. WEBBER drew attention to the fact that the cord remained unaffected, although there was so extensive disease of the vertebræ, and explained it by the free exit of pus preventing the spread of inflammation internally. He added that paralysis in these cases was due to inflammation and not to pressure.

DR. TARBELL said that Taylor, of New York, for the past fifteen years has treated caries of the spine by antero-posterior pressure, on the principle that the weight of the body may be borne by the articular processes, and this theory is now generally accepted. He called attention to the specimens in the possession of the Boston Society for Medical Improvement, which show disease of the bodies without its invading the transverse and articular processes, but said he had never seen a specimen showing disease of the latter without implicating the former. In the same museum are also several specimens of extensive caries of bodies of vertebræ without curvature or prominence of spinous processes, proving that the prominence, which is considered pathognomonic, bears no direct ratio to the extent of the caries.

Several gentlemen spoke of the marked illustration, by the specimen, of the fact that the paralysis frequently accompanying caries was caused by inflammatory affection of the cord and meninges, and not by mechanical compression of the cord.

DR. TARBELL thought the strongest argument against the belief in mechanical compression as the cause of such paralysis was the fact that the paralysis almost invariably occurs in the early stages of the disease when there is little or no deformity, while it often disappears as the disease progresses, although the angle of curvature may be steadily increasing.

DR. CHADWICK asked whether the articular processes had been destroyed by the disease in this specimen, saying that Dr. Freund, of Breslau, had several years ago read a paper before the German Society of Naturalists and Physicians in which he had demonstrated by diagrams and specimens, both normal and pathological, that the weight of the body does not rest chiefly upon the bodies of the vertebræ, as generally supposed, but upon the articular processes. As nearly all the weight of the body is in front of the supporting column, special provision had to be made to prevent anterior curvature. According to Dr. Freund's theory this is affected in two ways: first, the articular surfaces are assumed to be the fulcra of a lever, the transverse and spinous

processes may be regarded as the arms, and are therefore bound together by ligaments and muscles to resist the weight of the body on the other side of the fulcrum; secondly, the action of these processes is thus supplemented by the bodies of the vertebrae and the intervening cartilages, which being interposed between the arms of the lever on the same side of the fulcrum as the weight, help to keep the first apart. If the bodies of the vertebrae are destroyed by disease, the column will not, according to this view, curve until either the articular surfaces are attacked by the disease, or the ligaments and muscles uniting the spinous processes have yielded to the force of the weight which they are thus called upon to support, unaided by the bodies of the vertebrae on the other side of the fulcrum. Dr. Chadwick said he was unable to recall all the evidence offered in proof of this theory, but it had seemed quite convincing when he heard it from Dr. Freund seven years ago.

DR. PORTER said that Dr. Taylor so arranges his mechanical appliances as to throw the weight of the body on to the articular processes and not the transverse, as they are very rarely affected by the disease. In the specimen before the society the articular processes are apparently intact on both sides. He added that we always have an angular curvature whenever we find the bodies diseased.

DR. BRADFORD remarked that there was a general impression in the profession that paralysis in caries of the spine was due to the contraction of the canal from the deformity. The specimen showed how a marked deformity might exist without any material narrowing of the spinal canal.

DR. PORTER referred to the fact that physicians very frequently overlook the initial symptoms of spinal disease, and called particular attention to the gastralgia and peculiar gait which are noticed in the earliest stage of the disease. In stooping the patient bends the knees and not the back. The gastralgia, Taylor says, is as important in forming the diagnosis as pain at the end of the penis is for stone in the bladder, or pain in the knee for hip disease.

DR. BRADFORD mentioned that a peculiar grunting respiration was very characteristic of commencing caries of the spine in the cervical and upper dorsal region.

OCTOBER 1, 1877. *Injuries inflicted by Electrical Treatment.* — DR. LINCOLN read a paper upon this subject.¹

DR. WEBBER said that his experience in the use of electricity coincided with that of Dr. Lincoln. He had met with some few instances of spinal disease where its use proved decidedly injurious. In a case of extreme nervous prostration it caused alarming exhaustion; in one case of cerebral disturbance it produced nausea and vertigo to such an extent that it had to be omitted after two applications; in a case of aural disease the tinnitus disappeared after the use of a strong current, and even when the strength of the current was later increased, the deafness also disappeared. One lady after the use of electricity found that she could dance round dances without becoming dizzy; before that she had never been able to do so. A patient, previously treated by a woman, was found to have ulcers along the spine from occiput to sacrum; in

¹ See JOURNAL, vol. xcvii., No. 17, page 463.

another case treated by a woman the exhaustion was so great that the patient was obliged to stop at a friend's house. Subsequently an extremely mild current was used by Dr. Webber with decided benefit.

DR. MINOT said, in reference to Dr. Lincoln's second case (spinal asthenia), that it seemed to belong to a class which was very frequently met with in practice, although but little could be found in the books concerning it. It was commonly called nervous asthenia, but one of the most prominent symptoms was muscular debility, which precluded physical exertion, mental effort also being followed by exhaustion in many cases. He was inclined to think the seat of the disease might be in the ganglionic portion of the nervous system. Although most frequently noticed in females, it was occasionally met with in males. Without denying the beneficial effects of electricity when intelligently employed in certain cases, he thought this treatment was in most cases inferior to that by internal remedies, of which phosphorus in some form had seemed to him to be of decided advantage. He usually began by giving the syrup of lactophosphate of lime followed by the dilute phosphoric acid, or the phosphide of zinc; after several weeks, sometimes months, these were followed by phosphorus in pills, in the dose of one sixtieth of a grain, gradually increased to one thirtieth of a grain three times daily. In some cases the improvement from this treatment was decided, and in several instances the patients were so satisfied of the value of the pill that they continued to use it occasionally after recovery, on the recurrence of any of the former symptoms. Of course, the strength of the patient must be at the same time improved and maintained by cod-liver oil, iron, and other tonics; and absolute rest in bed for a long time is an important element in the cure.

Repeated Passage of Gall-Stones; Dilated Bile Ducts; Death from Cerebral Hæmorrhage. — DR. CUTLER showed a specimen of dilated bile ducts, and gave the following history of the case:—

Mrs. L. C., eighty-four years of age, was very well until twenty years ago. At that time she had an attack of acute rheumatism which confined her to bed for a few weeks. Ten years ago she had incomplete hemiplegia of the left side, which soon passed away, leaving her as well as ever. For several years before this she had been regarded as dyspeptic on account of occasional pain located in the epigastrium, which was apt to come on some time after meals. It was of a rather sharp character, and sometimes accompanied by vomiting. The paroxysms of pain gradually became more severe, and were of several hours' duration, so that about six or eight years ago she consulted a physician, who treated her with sulphate of morphia and camphor water (one eighth of a grain to a drachm). As this gave her ease she kept the combination by her and made frequent use of it till I saw her, one and a half years ago. At that time she was very thin, sallow, easily excited, and at times quite childish. Her peculiar manner and appearance led to very careful inquiries, which developed the fact that she not only often used morphia and camphor water, but also took paregoric. The tongue was clean, lungs normal, pulmonic second sound of the heart accentuated, first sound somewhat prolonged at the apex, no murmur, no thrill on palpation. There was no tenderness of the abdomen, and for some time the appetite and di-

gestion had been good. Bowels were regular, sleep natural. Several weeks afterwards I was called to her, and found her in bed with an elevated temperature and an expression of dejection on the countenance. I was told that the day before, at ten A. M., after no especial change in her mode of life, she had been suddenly attacked with severe lancinating pain in the epigastrium, which extended towards each side, and was followed by vomiting. Heat and pressure had given relief after an hour or two, though a soreness, and especially a tenderness, remained at the seat of pain. The tenderness was rather more marked on the right of the epigastrium. Bismuth and morphia gave relief. Little food was taken for several days, for fear of bringing back the pain. Several such attacks occurred after varying intervals, and sometimes the symptom of jaundice was added, so that the diagnosis of biliary calculi was made. For the past six months she had been much better, had suffered no attacks of pain, and had increased much in flesh. Last Saturday I was called to see her very early in the morning, but found her dead on my arrival. I learned that at ten o'clock the night before she had fallen on the floor, and had lost control of the left arm and partially of the left leg. The consciousness was dulled, and vomiting occurred; in a few minutes she rallied, and accurately described her sensations in the leg and arm, which still remained paralyzed. Shortly after this she fell asleep, and appeared to rest well till early in the morning, when her stertorous breathing alarmed her attendants, so that they sent for me.

At the autopsy there was much congestion of the posterior portion of the lower lobes of both lungs, and some of the upper. There were quite a number of small ecchymoses on the heart and pericardium. The heart was large, its left ventricle in a state of hypertrophy, the posterior segment of the mitral valve very much shortened and thickened, and the aortic valves adherent at their edges, producing a very slight stenosis. There was a very large patch of perisplenitis on the atrophied spleen. The liver was atrophied, and the gall-bladder invisible till the adherent mesocolon and transverse colon were cut away, when it was seen to be flattened and distorted by contracted connective tissue. On opening the duodenum the papilla of the common duct was very prominent and its orifice enlarged. On opening the common and hepatic ducts they were very largely dilated, and the gall-bladder flattened and contracted by cicatricial tissue, and contained only a little bile-stained mucus. The bile-ducts were much dilated, even to their utmost ramifications, and except that here and there small calculi were seen they were empty. There was much increase of the connective tissue around the ducts, which had gone on to contraction and produced atrophy of the liver. The other organs were not especially remarkable. The brain was not examined. There must have been an impaction for a very long time to have produced the dilatation and subsequent inflammatory thickening.

Obstruction of the Common Duct depending upon Hardening of the End of the Pancreas. — DR. ELLIS showed a specimen in which the effects of obstruction of the common duct were still more striking than in that shown by Dr. Cutler. The obstruction depended upon a hardening of the end of the pancreas. The patient was a woman seventy-two years of age, who for five months had had pain in the left side of the epigastrium, which was at times

somewhat tender. During this time the skin was of a deep yellow color, the dejections were very light colored, rarely approaching yellow, and the day before death resembling coagulated blood. The urine was of a very dark color. There was much trouble from vomiting during the last six or eight weeks, the vomited matter at first being light and frothy, but in the last four weeks dark brown. She was perfectly conscious until a few minutes before death.

The liver was of a dark green color, and so friable that it broke down with slight compression, and felt like the crepitating cellular tissue in emphysema. Projecting from the surface were low elevations, perhaps of a quarter of an inch in diameter, of a darker color than the rest of the organ, and very soft to the touch. These proved to be atrophied and dilated portions of tissue, resembling the prominences of pulmonary emphysema. The tissue was even so soft that it could be washed away like the pulp of the softened spleen. The bile ducts were very much dilated, the smallest ones with the atrophied hepatic tissue hanging in tufts from the others. After washing, there remained of the tissue of the liver something resembling the villousities of the chorion. The gall-bladder was distended by dark green bile, and contained ten or twelve blackish gall-stones about a quarter of an inch in diameter, with many projecting points. The pancreas was enlarged and very firm, and had caused an obstruction by compressing the common duct near its opening into the intestine. The duct was much dilated. A microscopic examination of the hardened tissue did not show any special change in the elements. Both kidneys were tinged with bile and had a fatty appearance. The tubuli contained much fatty and granular matter. The large intestines held a large quantity of dark, thick fluid, which looked like blood mixed with the contents of the intestines.

Fracture of the Neck of the Femur within the Capsule. — DR. HILDRETH showed a fracture of the neck of the femur within the capsule, and referred to the injury which might be sustained in such cases from a prolonged examination under ether.

OCTOBER 15, 1877. *Fracture of the Skull.* — DR. MARION reported two cases of fracture of the skull, which are reserved for publication.

Aneurism of the Aorta. — DR. CUTLER showed a specimen of a cylindrical aneurism of part of the ascending, the whole of the transverse, and a part of the descending aorta. The aneurism was adherent to the left lung, and had perforated it by an orifice nearly admitting two fingers. The visceral pleura was stripped up for a space two and one half inches wide and five inches long, from the edge of this rupture, and perforation had again taken place into the pleural sac, so that blood was poured into the lung and into the pleural sac at the same time. The pleural sac was nearly full of clots and serum. The aorta showed extensive chronic endarteritis. The left ventricle was hypertrophied and dilated, the latter condition predominating. The œsophagus had been compressed over a space three inches long, which had given rise to dysphagia. None of the other organs had suffered compression. There was no erosion of the sternum, ribs, or vertebræ. The aneurism in its largest part was somewhat larger in circumference than the fist.

DR. MORRILL gave the following history of the case: The patient, aged

fifty-five, was under his care in August, 1870, for injuries received from falling into the hold of a steamship. He was confined to his bed some time, but no fracture of the ribs was detected. In March, 1875, he was knocked down by a cask, and received a severe contusion about the junction of the upper ribs and the sternum. A severe scalp wound, followed by erysipelas, confined him for some time to the house, after which he kept about his work until July last, when a severe pulsation in his left chest and paroxysms of pain compelled him to desist. He saw him on July 28th, at which time his symptoms had existed with greater or less severity for five months. His condition at that time was as follows: a pulsation was distinctly visible in his left chest, about the second and third intercostal spaces. This region was dull on percussion. The heart was enlarged, and the apex beat displaced some three inches below the nipple. Two blowing sounds were heard over the seat of the pulsation, the diastolic being decidedly the louder. Both of the sounds were more distinct than those of the heart itself. There was some difficulty in swallowing. No difference in the beat of the radial arteries could be detected, nor were there any symptoms pointing to the larynx or the brain.

Spindle-Cell Sarcoma of the Choroid. — DR. WADSWORTH showed two tumors of the choroid consisting of spindle-cell sarcoma. The first tumor contained scarce any pigment. The patient, a woman of middle age, accidentally noticed loss of sight in the eye two and a half years ago: one and a half years ago there was an inflammatory attack lasting a month, and she entered the hospital on account of another attack of inflammation, the pain attending which had considerably reduced her strength. The anterior chamber was shallow, the iris a little discolored, the pupil large, but closed by an opaque lens. There was moderate congestion of the globe; a little above the edge of the cornea were two small staphylomata of the sclera. No view of the fundus could be obtained, and no definite diagnosis made, but enucleation was indicated in any event to avoid recurrence of inflammation and pain. The eye was found about one third filled by the growth.

The second tumor was removed by Dr. Shaw. The patient, also a woman, had been treated for several weeks by the recumbent posture for separation of the retina, in New York, a year and a half ago. The eye remained quiet for some time, but latterly had become inflamed, and, a tumor being suspected, was removed. This tumor was smaller than the other, and for the most part very strongly pigmented. It presented a condition certainly very rare, that is, in the midst of the melanotic growth lay an oval mass, the size of a small pea, which was entirely without pigment. This white nodule was made up of spindle cells of the same size and shape as those of the dark growth about it, yet the transition from pigmented to non-pigmented cells was quite sharp and abrupt. At one edge of the main tumor was another non-pigmented portion which extended as a narrow band for some distance into the choroid.

Dr. Wadsworth again referred to the fact, as shown by the first of these cases, that the disease may progress so far as to cause complete or nearly complete loss of sight before the patient is aware of any trouble.

Tuphlo-Enteritis with Perforation of the Appendix Vermiformis. — DR. FITZ showed a specimen of tuphlo-enteritis with perforation of the appendix

vermiformis at the upper part; the lower portion was gangrenous, and contained a round fecal concretion of the size of a dried pea. Acute general peritonitis had resulted, the intestines being glued together and to the omentum by recent fibrinous adhesions.

DR. SWAN gave the following history of the case: The patient, a gentleman thirty-eight years of age, died on the 12th of the present month. Four weeks previously he was attacked with diarrhœa, which soon ceased but returned two weeks later, and from that time he suffered occasionally from a subacute pain in the abdomen, attended with a desire to go to stool. He continued at his business daily until the 10th, when at two A. M. he was awakened by intense persistent pain referred to the epigastrium, and attended with embarrassed respiration. A few hours after, the pain became general over the whole abdomen, but later was again severest at the epigastric region. His general condition became rapidly worse. Opium gave only temporary relief, but ether administered once fully, twelve hours before death, relieved the pain completely. In the course of the last twenty-four hours of life there was some vomiting of bilious matter, a clammy skin, and a continuance of the thoracic respiration, and, during the last twelve hours, cold and wet extremities with absence of the radial pulse. Decubitus was throughout upon the right side. A remarkable feature of the case was the alarming comfort of the patient on the morning of the 10th with no corresponding evidence of improvement.

DR. BOLLES referred to the case of a gentleman who died recently after from three to four days' illness. He was attacked with severe pain at the epigastrium, attended with vomiting, marked prostration, and all the symptoms of acute peritonitis. At the autopsy, which was made by Dr. Bolles, the case not being his, the vermiform appendix was found very much swollen, and containing two or three fecal concretions, with a slough at its base as large as a nickel cent, and a perforation. There was also peritonitis.

Dr. Bolles remarked that various seeds and cherry-stones are said frequently to be found in the appendix vermiformis, but in his experience fecal concretions resemble very closely these foreign bodies, and might easily be mistaken for them. He had found one cherry-stone in this situation, but in several other instances the concretions looked so much like cherry-stones and orange-seeds as at first to be considered such.

DR. BROWN gave the history of a case in his own practice which closely resembled that cited by Dr. Swan. The patient, a book publisher, about thirty years of age, after an active day had eaten a meat supper at seven o'clock, and was attacked with severe pain at the epigastrium while at a concert in the evening. At ten o'clock his symptoms were those of indigestion, and were relieved after the subcutaneous injection of morphia once repeated and the vomiting of undigested food. He had for some years had chronic diarrhœa at intervals. At the first visit there was no pain or tenderness other than at the epigastrium. In the morning he was better. The following evening some tenderness was noticed about the cæcum. He was seen again during the night, and still complained of pain at the epigastrium, and slight pain over the cæcum. There was no marked tenderness, though some little tumefaction

of the abdomen. No marked variation of the pulse or temperature from that of health at any time. In the morning he was again better, but at noon, without unusual exertion or other known cause, he became collapsed, mildly delirious, and died at four P. M.

At the autopsy the cæcum was found entirely healthy; the appendix was much thickened throughout, and showed evidence of old inflammatory action. It was agglutinated to the cæcum. About an inch from the opening into the cæcum was a rupture about a line in diameter. Two ounces of pus were found in the peritoneal cavity, and a faecal calculus, laminated, but without nucleus, in the appendix.

Intussusception of the Bowels. — Dr. C. P. Putnam showed a specimen of intussusception of the bowels, such as often occurs in children either at or perhaps immediately after death. He remarked that it occurs in various diseases whether death is accompanied with distress or is easy, but is not found when the bowel is distended with gas.

Danger of Surgical Interference in Cases of Diabetes. — Dr. BOWDITCH mentioned the two following cases reported to him by Dr. Atlee, of Philadelphia: The first occurred in Dr. Atlee's practice many years ago, being that of a man affected with diabetes, who had also an old cicatrix on his great toe, caused by stepping upon a sickle many years before. This opened of itself, and was lined with a tough, white, and granular concretion. Various remedies were used for a long time without benefit. Finally he consulted Drs. Pepper and Gross, and they advised amputation of the toe, which was performed. Dr. Atlee had always feared to have the operation done, owing to the liability to unfortunate results from operating upon diabetic patients. Erysipelas supervened, and the patient died.

The second case was that of a man who came to him with a fistulous opening on the great toe, in about the same place as the first case, and lined with the same singular secretion. There was no general disturbance of the system, but remembering the first case Dr. Atlee examined his urine, and found a large amount of sugar. Under the use of skim milk exclusively the diabetes was relieved, and the fistula healed. There was no communication with the joint. He had never received any injury.

ZIEMSEN'S CYCLOPÆDIA, VOLUME XVI.¹

THE present volume contains papers by Senator on rheumatism, gout, rickets, and malacosteon; Seitz writes on slight troubles arising from catching cold; Immermann treats of anæmia, chlorosis, and pernicious anæmia, beginning with a paper on the general disorders of nutrition. He also writes on corpulence; Birch-Hirschfeld discusses scrofula and disease of the lymphatic glands; and Senator closes the volume by articles on diabetes mellitus and insipidus. The volume appears to us less satisfactory than its predecessors. It contains, no doubt, a vast amount of information, but there is, perhaps inevita-

¹ *Diseases of the Locomotive Apparatus and General Anomalies of Nutrition.* New York: William Wood & Co. 1877.

bly, a great deal of compilation and, it seems to us, less originality than usual. It is unfortunate that Senator's article on rheumatism was written before the treatment by salicylic acid was introduced, and therefore the only mention of this important drug is in a note by the translator, Dr. E. Buchanan Baxter. We looked forward with some interest to learning about "catching cold," our old friend the ætiological scape-goat, but we do not find ourselves any the wiser for it. The article on corpulence is much too long, being full of digressions, but near the close it contains some very good suggestions concerning the treatment of disease in the corpulent. Senator's paper on diabetes mellitus appears to us very excellent.

SOZINSKEY ON BEAUTY.¹

WE have derived much amusement from the perusal of this little work. The author sees no reason why every one should not desire to be beautiful, and after describing beautiful proportions and features he kindly gives instructions how to obtain them or, if better may not be, to conceal the imperfections of inferior ones.

We pass over the proportions of the male and female figure, merely remarking that our author is in error in exacting absolute symmetry of the two halves; it very rarely occurs, and we doubt if it is an element of beauty. The author's lights on the personal appearance of distinguished persons appear to be exceptional, and we are rather startled at some of his deductions from them. Let us give a couple of instances: "It may not be out of place to state that if the figure is what it should be the line of the spine is straight, or, in other words, there is no lateral curvature. A deformity of this kind is very ugly, uglier if possible than a bend forward. Alexander the Great was not as beautiful as Richard the Third." Again we are told that thinness is worse than fatness, and thus that Prince Henry was uglier than Falstaff. The author evidently believes in phrenology, and after speaking of the several regions of the head gives the following advice, which alone is worth several times the price of the book: "In a woman it is very desirable that the regions of perception, of the moral qualities, of the intellectual sentiments, and of the domestic propensities should be well developed. When these are defective and the other regions full, we advise lovers to look out, for there is danger ahead." We must protest, however, that if this is the case it is very unfair on the part of Dr. Sozinskey to give directions for concealing natural defects. His advice concerning ears is, as far as we know, original: "What shall we do with an ugly ear? If possible, do not show it to anybody. It is often caused to project by turning it forward and resting on it at night. By keeping it bandaged in the desired position nightly it will soon retain it in most cases, but if it does not, recourse may be had to another expedient, and that is contracting the skin and scalp behind, which can be done by the skillful use of blisters. Its shape, in detail, may be modified in the same way." We regret that we have no space for the author's very judicious advice on the

¹ *Personal Appearance and the Culture of Beauty, with Hints as to Character.* By T. S. SOZINSKEY, M. D. Philadelphia: Allen, Lane, & Scott. 1877.

choice of ear-rings. We think he cannot have read *Midshipman Easy*, or he would have been obliged to give some credit to Captain Marryat in the following passage: "An interesting and most important question is here suggested, and that is whether or not in modifying the shape of the skull we also modify the mind. Now from the fact that the brain, like every other part of the body, grows most in the line of least resistance, and least in the line of most resistance, and also on the principle that the size of the brain determines the amount of mind, we have not the slightest doubt that the question may be answered in the affirmative. . . . We have no doubt that if the brain is prevented from rising in the middle and upper portion the person will be lacking in moral instinct, and unless the reason is strong or the circumstances such as to keep him in the path of right the record of his life will be unsavory." Dr. Sozinsky would apply similar treatment to the nose: "Some people jest at the idea of a nose-machine, but we see no reason why there should not be one, or why it might not prove useful. Two little splints arranged in the form of a saddle and bound on the nose nightly soon transform acceptably those tip-tilted affairs which mar so many faces."

The riches of the book are by no means exhausted, but though unwilling to stop we feel that we have already given too much space to its discussion. We cannot conscientiously say that it is valuable, but it certainly is very entertaining.

TANNER'S INDEX OF DISEASES.¹

THE second edition of this valuable compendium contains a great amount of information arranged within a moderate compass and in a convenient form for reference by the busy practitioner for whom it is intended, or the hurried student by whom, no doubt, it will be much consulted. It has been revised throughout in accordance with recent advances in medical knowledge, and will be found to supply with sufficient accuracy many of the details which the memory fails to carry. Toward the end we have a large number of formulæ for aliments, baths, medicines, etc., with fuller descriptions of some of the more important therapeutic preparations and appliances, and at the close a brief account of many of the British and Continental watering-places and climates.

TOLAND'S SURGERY.²

THE lectures of which this book is composed are not from the pen but rather from the lips of the author, being taken by a stenographer in attendance upon the course delivered before the class. They represent the experience of a man who evidently holds a prominent position as a practicing sur-

¹ *An Index of Diseases and their Treatment.* By THOMAS HAWKES TANNER, M. D., F. L. S. Second Edition. Revised by W. H. BROADBENT, M. D. Philadelphia: Lindsay and Blakiston. 1877.

² *Lectures on Practical Surgery.* By H. H. TOLAND, M. D., Professor of the Principles and Practice of Surgery in the University of California. Philadelphia: Lindsay and Blakiston. 1877. Pp. 506.

geon in his own city, and who is in possession of abundant material to illustrate his teachings, which, as might be expected, are largely clinical. The various departments of surgery receive, however, their share of attention, although quite unequally. The book is doubtless a fair sketch of the instruction in surgery which San Francisco medical students have during a winter's course, and is interesting to surgeons generally as a "mirror," we presume, of Pacific surgical practice. It has a large number of illustrations, many of which, however, seem to us superfluous. The book is printed in the publishers' usual careful style.

HUTCHINSON'S PLATES.¹

VARIOUS fractures of the skull form the subjects of the illustrations of this fasciculus, and make it an unusually interesting one. The cases of trephining for depressed fracture give the author's views on this subject and his method of operating, which is somewhat novel. The plates are wonderfully clear drawings, and as satisfactory pictures of this class of injuries as we remember to have seen.

THE PENGE MURDER.

THIS remarkable case, which has caused the most intense excitement in England, may be considered as completely closed; the four prisoners had been found guilty of murder in the first degree and condemned to death; subsequently the sentences of three have been commuted to imprisonment for life, and one of the women has been pardoned. The medico-legal questions involved are of the greatest importance, and it is to discuss them that we take up the subject. The outlines of the melancholy story are as follows: Louis Staunton, an artist of respectable connections, had married a woman of weak mind twelve years older than himself, apparently for her money. A child was born, and died under circumstances which we believe were thought suspicious. The marriage was of course unhappy, and Louis Staunton contracted an intrigue with Alice Rhodes, the sister of his brother Patrick's wife. These two men and two women were accused of having compassed the death of Harriet Staunton by starvation and neglect. She was kept closely confined, and no physician was called in till in April last, just on the arrival of the family at Penge, whither they had moved, Mr. Longrigg was summoned. He found the patient perfectly insensible, with a weak pulse of 110, and labored, stertorous breathing. The right pupil was dilated and the left contracted to a pin's point. The arms were rigid. In a few hours she died, and Mr. Longrigg gave a certificate of death from apoplexy and cerebral disease. Why he specified apoplexy we do not pretend to understand. Suspicious circumstances coming to light, a post-mortem examination was made six days later in the presence of

¹ *Illustrations of Clinical Surgery, consisting of Plates, Photographs, etc., with Descriptive Letterpress.* By JONATHAN HUTCHINSON, F. R. S. Fasciculus VIII. Philadelphia: Lindsay and Blakiston. 1877.

several medical gentlemen, of whom at least one was there on behalf of the prisoners. It was decided that starvation was the cause of death. As the detailed account by Mr. Longrigg of the autopsy is rather long and contains chiefly negative statements, we copy from the *Medical Examiner* the following summary, which is on the whole a very fair one; the only criticism we have to make is that it assumes that the bronzing found on parts of the body, which is said to occur in starvation, was due to dirt. The appearances "were mainly an extreme emaciation of the body and a filthy state of the integument and its appendices, whilst the body was covered with vermin. On opening the head there were found adhesions between the cranium and dura mater, and the dura mater and pia mater, and a supposed tubercular substance upon the membranes of the brain. The brain itself is said to have been remarkably firm (seventh day after death), and no serum, lymph, or blood was found in its ventricles; the vessels were stated to have been greatly congested. There was great atrophy of the internal viscera, which, with the exception of the lung and stomach, presented no other change. At the apex of the left lung was found a tubercular deposit about two inches square. The stomach, which contained about four or five ounces of undigested food, was congested, especially along its lesser curvature. The intestines contained no food or faecal matter. The peritonæum is said to have been slightly inflamed."

We cannot go into the general evidence; suffice it to say that there can be no doubt that the accused desired Mrs. Staunton's death, and at least treated her with criminal negligence, but according to all accounts it was the medical evidence which caused the conviction of all the prisoners. There is a vast deal to be said on both sides, but we have come to the conclusion that unless the intention of killing could be proved beyond all question, which apparently was not done, the post-mortem appearances did not warrant a conviction. On the other hand we cannot go so far as the *Medical Times and Gazette*, which asks what inference would have been drawn from the autopsy had there been no previous history whatever, and replies to its own question that "it is hardly possible to arrive at any other inference than that the actual cause of death was tubercular meningitis; . . . true, again, the emaciation may have been due to want of food. But such emaciation has been known, as we have said before, when the supply of food has been unlimited, and when it has even had to be forced on the patient." To this it is answered that tuberculosis was not sufficiently advanced to cause death, as but a very small part of one lung was affected, and as the suspicious bodies in the meninges were not very numerous. In the words of the official report, "there were some small patches of rough millet-seed-like deposit in the meshes of the pia mater, probably tubercular." Dr. Paine, in a letter to the *British Medical Journal*, asks who will assert how many tubercles will cause death, and the question is, of course, unanswerable; but we do not think Mr. Longrigg was in error in not ascribing death to that cause. It certainly might be argued that the state of neglect in which the victim was kept was most favorable for the development of tubercle. The remarkably firm condition of the brain so long after death is extremely suggestive of disease, and the inequality of the pupils before death is suspicious though, under the circumstances, a symptom of no great value. The brain

and membranes should have been examined microscopically. In favor of the theory of starvation the utter emptiness of the alimentary canal, except for the undigested food in the stomach, is a very strong point. Emaciation might come from other causes, but the total absence of feces in the intestines is hard to account for except on this theory.

This trial illustrates the difficulties of medical expert testimony in cases where it is not merely corroborative but of primary importance. The signs of starvation are mostly negative, and it is so rare a cause of death that few men have seen enough cases to be able to testify to the relative importance of different points, or to state how widely the appearances may vary. The autopsy here showed nothing inconsistent with starvation and much confirmatory of it, but in the absence of other conclusive evidence that Harriet Staunton was starved, it would not, in our opinion, justify a conviction of murder in the first degree.

VACCINATION.

THE recent report of Dr. Meares, the health officer of San Francisco, gives some account of the late small-pox epidemic in that city, and discusses the vexed question of bovine *versus* humanized virus. The first case of small-pox was reported on May 19, 1876, and from that date till July, 1877, there were one thousand six hundred and forty-six cases and four hundred and eighty-two deaths reported. Many cases and some deaths were no doubt concealed by the Chinese, concerning whom Dr. Meares uses very intemperate language. When the panic became general, vaccinators were appointed, and bovine virus was procured from the Eastern States. Of the effects of this virus Dr. Meares speaks in the highest terms. At times he is rather unintelligible, as when he says: "Even when the period of incubation has been going on for several days, the disease has, in every case coming under my observation, been rendered entirely harmless by vaccination with bovine virus." What, we would ask, does "entirely harmless" mean? Further on Dr. Meares announces the following propositions:—

"First. I believe the bovine to be more vigorous than the humanized virus.

"Second. My experience and observation teach me that humanized virus deteriorates.

"Third. It is proven beyond contradiction that humanized virus may convey syphilis.

"Fourth. It is certain that bovine virus is protective against an attack of small-pox.

"Fifth. It is certain, in my estimation, that bovine virus conveys no disease.

"Sixth. Vast numbers of intelligent persons are prejudiced against and oppose vaccination because of the known fact that humanized virus has conveyed syphilis. The introduction and use of bovine virus is rapidly removing this prejudice and opposition."

The first proposition is simply an indefinite assertion; the second we will

discuss later; the third can hardly be questioned; the fourth is too strong, for even the disease itself does not make another attack impossible; we are not inclined to dispute the fifth nor the sixth after striking out the word "intelligent." The point which it is of paramount importance to settle is whether humanized virus has lost its original virtue. Dr. Meares quotes from the report of the health officer who served in 1868 and 1869, to prove that vaccination was of very little service in the severe epidemic of those years, during which the humanized virus was used. This certainly is a very important fact, but it is dangerous to generalize from insufficient premises, and we have no means of knowing what agencies were at work to produce the fatality of that epidemic.

It would appear that the views of Dr. Meares have not been universally accepted in his own State, for in the October number of the *Pacific Medical and Surgical Journal* there is a paper by Dr. A. H. Agard, who takes the opposite side on the question at issue. He does not present anything new, but quotes from a number of excellent authorities to prove that humanized virus does not, or at least does not always, deteriorate. This whole question rests largely on assertion, and so abounds with causes of error that the utmost caution is necessary in its discussion. It certainly appears to us plausible that humanized lymph should in the course of time lose its power, and we do not doubt that in some cases it has; but is this due to accident or to carelessness, or is it the inevitable course of events? This is the question, and it is still an open one.

MEDICAL NOTES.

— William Whitelaw, M. D., gives to *The Lancet* for September 29, 1877, the particulars of a case of anuria, lasting twenty-five days, the patient then recovering. The points of interest are summarized as follows: (1.) Twelve days elapsed from the date of taking scarlatina (which was of a very mild nature) till the suppression took place. (2.) With the exception of two ounces passed on the thirteenth day, there was complete anuria for twenty-five days. (3.) Except slight headaches, and latterly slight œdema, there were no uræmic or dropsical symptoms throughout. (4.) There was no albuminuria and no febrile action. The kidneys seem to have been in a state of torpor, and their work must have been carried on by the bowels, skin, and to some extent by the lungs. (5.) It is hard to say what share the treatment had in the final happy result. Vesication at first seemed beneficial, but a second trial had no such effect. Then one drachm of urine was passed before the application of the battery, and therefore credit cannot be entirely due to it. Probably ceasing diaphoretics and purgatives, and thus throwing the entire duty of excreting urea on the kidneys, was the best line of treatment that could be adopted, although at first sight a somewhat risky proceeding.

— Dr. J. Dubrisay details a case of intermittent fever occurring with perfect regularity in a child fourteen months old. The attacks were present eleven days in succession. There was no splenic tumor. The case was complicated

by broncho-pneumonia, which obscured the diagnosis at first. In sucklings the intermittent attack often manifests itself in convulsions, and the regular type is not always so sharply defined as in the case reported, and especially the distinct division into stages is wanting.

— We learn by a recent exchange of the death, on September 25th, of Professor C. A. Wunderlich, of Leipzig, so well known from his work on Medical Thermometry. His affection was carcinoma of the retro-peritoneal glands, which he is said to have diagnosticated on himself in his clinic in 1876.

— *The London Medical Record* gives the following account of the researches of Faye on the secretion of milk in the new-born: He ascertained, from an examination of one hundred and twenty cases, that it was absent in six only, four being boys and two girls. The distribution of sexes in the others was nearly equal. In forty-five per cent. of the whole number it commenced on the fourth or fifth day; in the others, from the second to the tenth day, — never later, never earlier. As a rule, the secretion begins with the fall of the umbilical cord, but the author denies the existence of any casual connection between the two, as the exceptions to this coincidence are sufficiently numerous. The quantity of milk emitted is, in general, very small usually two or three drops. Genser, however, on one occasion expressed three grammes. When mastitis is produced the secretion often disappears. Milk was never found after the first five or six weeks. It is, as a rule, very alkaline, and resembles colostrum. Under the microscope it exhibits numerous granules and some fat-globules. The latter are ordinarily sparse, but occasionally are as numerous as in woman's milk. The analysis given by Genser is: casein, 0.56; albumen, 0.49; sugar, 0.96; fat, 1.46; salts, 0.83; water, 95.7. The author mentions further that the mammary gland of the male occasionally swells slightly at puberty, and may then contain one or more drops of a secretion resembling milk.

— *The Philadelphia Medical Times* for October 27, 1877, reports the success of the new plan of teaching at the university to be all that could be desired. There are one hundred and thirty first-course students entered for the three years, and the general paying class is as large as it was last year. The character of the class has much improved, the average intelligence and education of the new men being notably superior.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.]

CLINIC OF PROF. T. GAILLARD THOMAS FOR DISEASES OF WOMEN.

OCTOBER 19, 1877. *Slight Laceration of the Cervix Uteri.* — Mrs. Anne G., a native of Poland, thirty years of age. She has been married for ten years, and has had five children, but no miscarriages. The patient gives us the following history: She was perfectly well in every respect up to the time of her last confinement, which occurred four years ago, but says she has never been well since. She complains of pain in the head, back, side, and down the

leg, and of cramps in the bowels extending around to the back; she attributes all her trouble to the fact that she got up too soon after her confinement and took cold from sitting near an open window. On questioning her more particularly as to the character of the headache, we find that it seems to amount really to hemicrania, and that the pain appears to shoot down the right side of the body as far as the thigh. The menstrual flow returns every three weeks, but is not too free in quantity. She experiences no unusual suffering just before it makes its appearance, and while it continues the pain above mentioned is very much relieved. Leucorrhœa usually follows the menstrual period. Now, as our patient is evidently not the kind of woman who would manufacture complaints, let us see if we can find out anything by a physical examination to account for the symptoms of which she tells us.

Placing the patient on the back, I discovered on inserting my finger into the vagina that there was a slight laceration of the cervix uteri. The two lips of the wound were separated to a very small extent, but cicatrization had taken place, and they were everywhere covered with mucous membrane. The uterus was apparently normal in size and position. It was perfectly movable and not at all sensitive, nor could I detect a prolapsed ovary or any other source of irritation about it. Then placing the patient on her side, I introduced the probe, and ascertained positively that the uterus was in its natural position and that the canal was of the natural length. I may here explain that for the purpose of exploration I greatly prefer the light and flexible silver probe to the sound, and invariably use it unless there is some special reason for employing the latter. After the most thorough examination I was unable to discover anything abnormal whatever about any of the pelvic organs, except the old laceration of the cervix of which I have spoken. Now, have we discovered anything to account for the symptoms, or, in other words, made out a diagnosis? I tell you perfectly frankly that we have not, and that is the very point I want to make in this case, and the reason why I have brought the patient before you. A diagnosis is the discovery of a certain pathological cause for certain pathological symptoms noticed, and I would warn you never to fix upon some little epi-phenomenon, like this slight laceration of a cervix, and then declare that you have made out your diagnosis. I have made an examination with the greatest care, and have found absolutely nothing about the pelvic viscera to account for this woman's trouble. Just now, I am aware, laceration of the cervix is attracting a great deal of attention in gynæcological circles; but, as is always the tendency with new things, it seems likely to assume a great deal more importance than it really deserves. It is supposed to produce very much such symptoms as we have noticed here; yet I am utterly unable to see how a slight laceration like this can be followed by such results. Suppose that this patient were in private practice, and that I should perform an operation, and then that all the symptoms should continue just the same afterward; I do not think either she or myself would be very well satisfied. I will not treat her for uterine disease for the simple reason that I have not found any. It is probable that she may have had subinvolution after her confinement, but if so, it has all passed away now. I will not attempt to make a diagnosis in this case, because it does not properly belong to our department,

but will simply say that there seems to be some intestinal trouble, the nature of which I cannot now stop to find out definitely. I remember just such a case as this being presented at the clinic a few years ago, and a fortnight afterward the woman came back with a tape-worm thirty feet long which she had passed, and which, of course, accounted for all the symptoms. Yet she had been treated for years for uterine disease. Gynæcology is not without its enemies, and one great reason why it has enemies is that some of those who devote themselves to it make so much of trivial particulars; and it is to warn you against doing this that I have occupied so much of your time with this case, notwithstanding the fact that I have more interesting material outside than I can possibly present to you to-day. So I have made my point, though I have not made a diagnosis.

Phantom Tumor; Retroflexion and Prolapsed Ovary. — Delia H., a native of Ireland, and twenty-nine years of age. She has been married eleven years and has had one child, but no miscarriages. The child was born ten years ago; yet though she has been living constantly with her husband she has never been pregnant since. She says that she was quite well up to three years ago, when she began to have a "heavy drag," as she expresses it, in the pelvic region, and a good deal of pain in the back, chest, and head. The menses occur every three weeks, and during the time of their appearance, which is usually about five days, she suffers excessively. She says she is in the habit of using peppermint to relieve the pain, but she has not been obliged to resort to opium, as far as we are able to learn. During the interval she is subject to leucorrhœa, and she tells us that she suffers greatly from weakness in walking. This is all the history that she has to give us. You observe how pale and anxious she looks, as if something had been wrong for a considerable time. One thing more: she regrets that she has never had any more children, and is at a loss how to account for this fact.

The *per vaginam* examination was made precisely as in the last case in order to see whether anything could be found to account for the symptoms complained of, and I should have been very greatly disappointed if we had not found something wrong there. The persistent pain in the back, the excessive dysmenorrhœa, and the sterility all pointed strongly towards the pelvic organs. In the other case, on the contrary, the principal symptoms, the hemicrania and the cramps in the abdomen, were quite irrelevant, and the only point of any value in this connection was the fact that the pain was relieved during the menstrual flow. Now what did our examination reveal? First of all the cervix was found in its normal position and with a slight laceration, as in the preceding case. But lacerations of this kind, I would have you understand, are the rule with women who have borne children, and not the exception. Such a little nick in the cervix is in reality physiological and not pathological, and is a very different matter, I assure you, from a rent which is really entitled to be called a laceration, and which may undoubtedly be followed by serious consequences. After thus examining the cervix I carried my finger around to the back of the uterus, and there found a round and exceedingly tender mass of some size. Just anterior to it I felt a distinct bend in the uterus, so that my finger could be carried into a little fossa, as it were.

On external manipulation I discovered what appeared to be undoubtedly an ovarian cyst filling the whole abdomen. It was very firm and unyielding, but when percussion was made over it it gave everywhere a loud, drum-like resonance. At the present time you can hear this tympanitic sound distinctly, even through the patient's clothing. The tumor is perfectly globular in form, but contains nothing but air. In order to become assured of this fact I requested the patient to make a forced expiration, and at the same time pressed my hand firmly into the lower part of the abdomen. She repeated this four or five times, and each time I succeeded in pressing my hand still further in, until at last the fingers of this hand met those of the other passed into the vagina. There was, therefore, no trace of an ovarian cyst. Now if I were not positively certain here, this would be just the case for testing by anæsthetization. It would be unnecessary in the present instance, and as the patient is in a very depreciated condition of health, and lives at a considerable distance, we will dispense with it. This, then, is a case of phantom tumor. These tumors are continually being mistaken for ovarian cysts, and patients are not infrequently sent two or three hundred miles for the purpose of having ovariectomy performed, greatly to their inconvenience and anxiety, and much to the physician's mortification when the true state of affairs becomes known. Now it is principally to prevent you from making such mistakes when you get into practice that I bring this case before you. What will prevent you from sending such patients to have ovariectomy performed? Simply this: the reflection that no bag filled with water is resonant on percussion. You know how different the sound given out by a bladder filled with water is from that of one containing only air. These phantom tumors are nothing more than collections of gas accompanied by a kind of spasm of the abdominal muscles, which renders them very hard. If there is any shadow of a doubt, thoroughly anæsthetize your patient, when it will vanish, and the case be made perfectly clear.

But now let us consider a little more carefully what is the condition of affairs revealed by the examination *per vaginam* in this case. It might be that the mass which has been noted behind the cervix is a fibrous tumor, but in that case the fundus would be felt above on external palpation, and the probe or wound would indicate that the body of the organ is in its normal position or perhaps slightly anteverted. The fundus, however, cannot be thus felt, and the probe passes downwards and backwards with a pretty sharp bend. There is, then, a flexure of the uterus backward. But this is not all. The round, tense, and exceedingly sensitive mass which I have spoken of behind and below the uterus can be nothing else than one of the ovaries which has fallen down into Douglas's *cul-de-sac*. The next question that arises is, Does the condition which we have found account for the symptoms noted? and the answer is, Yes, amply. The retroflexion, no doubt, occurred immediately after the confinement ten years ago, when the uterus was large and heavy, and owing to the continuous engorgement of the organ the condition has gradually been growing more aggravated ever since. In addition there has been chronic ovaritis, and one of the ovaries, being much larger and heavier than in its normal condition, has gradually sunk lower and lower in the pelvis,

until it has slipped into Douglas's pouch. This latter occurrence probably took place about three years ago, from which time she seems to date her troubles.

In the treatment the indications are to restore the uterus to its normal position and to push up the ovary out of the cul-de-sac into which it has fallen. While in its present constrained position it is kept in a continual state of irritation and hyperæsthesia by the act of coitus, the loaded rectum, and other such agencies, from which it is free when higher up in the pelvis. Of course this woman needs the best of care, and hers is just a legitimate case for the hospital, because we have a chance to do her a great deal of good by treatment. Her looks indicate that she has been living poorly, while she requires a generous and highly nutritious diet. Above all she needs rest, and I think in two months from now, if she can be admitted to the Woman's Hospital, I can present her to you a very different looking woman from what she is to-day. A great deal of her trouble is undoubtedly due to the marked flexure of the uterus, which we have found to exist. This keeps the organ more or less engorged at all times, and at the monthly periods renders the escape of the menstrual blood exceedingly difficult, and thus gives rise to the obstinate dysmenorrhœa from which she suffers. The uterine canal in its present condition is very much like an India-rubber tube bent upon itself (so that no fluid can pass through it), and the simple indication is to straighten it, which, I cannot doubt, will result in the removal of the hyperæmia now existing, and the return of the organ to the normal fulfillment of its functions.

(To be continued.)

ABUSE OF MEDICAL CHARITIES.

MESSRS. EDITORS, — I was much interested by the manly article on the Abuse of Medical Charities, by Dr. Rogers, in the last JOURNAL, and with the editorial comments; and I hope your pages will be open to a full discussion of the subject. One point seems hardly to have been indicated, — the evil of pauperizing the population by giving people what they can afford to pay for. Nor is it made plain that if the really destitute only were aided there would be any lack of material for *thorough* clinical work. It needs to be reiterated that relief to the *poor* is not grudged by the profession. I cannot see what the question of the “ins” and the “outs” has to do with the matter. If it be true that there is an immense amount of imposition upon medical charities, the “ins” and the “outs” must pull together with a will to detect it and to provide a remedy.

S.

PROFESSOR HITCHCOCK ON PHYSICAL EDUCATION.

MESSRS. EDITORS, — Having had the opportunity some years ago of making the acquaintance of Professor Hitchcock and the system of physical education at Amherst, and knowing how much sincere and thoughtful labor has been put into the promotion of this subject, I feel called on to join "H. D." in expressing dissatisfaction with what seems to me the unappreciative and rather ungenerous handling of Professor Hitchcock's report in the *JOURNAL* of October 25th.

Charges of sentimentality and exaggeration in statement can usually be brought against innovators in any department, but may, surely, be allowed to pass without lengthy comment when the facts and arguments that they cover are of real value.

It is claimed to have been shown at Amherst that it is possible to interest young men of college age and habits, to the benefit of their health and sense of discipline, in a sort of physical training that would seem at first unavoidably tedious; the system there adopted compares favorably with those which have been making their way more and more into the school-life of Sweden and Germany; furthermore, it may be doubted whether the teaching of physiology by models is worse than useless, and the question is certainly worthy of serious discussion.

The readers of the *JOURNAL* would, I think, have been glad to hear from it with regard to these or other points at greater length, or to learn whether in its opinion this long-continued and creditable experiment is essentially a failure; but I believe that but few were edified at being told that the style of the report, which was of general interest only as an exponent of facts, was "canting," "goody-goody," and "verbose."

J. J. P.

When we are asked to believe that great good comes from four half hours a week of gymnastic drill, from each half hour of which ten to fifteen minutes is spent in singing, dancing, tossing in a blanket, and turning somersaults, we naturally look to see whether the style of the report is straightforward or not. It is easier to be shocked at the plainness of our language than to disprove its justness — EDS.

INJURY OF MIDDLE FINGER TEARING AWAY THE EXTENSOR TENDON FROM ITS ORIGIN IN THE EXTENSOR COMMUNIS DIGITORUM.

MESSRS. EDITORS, — Engineer George W. Edgar, steamer *New Berne*, aged forty years, was admitted to hospital May 9, 1876. The preceding day, while on duty, the first and second fingers of the right hand were caught by the eccentric of the engine, crushing and removing them near the second phalangeal articulations. The phalanx of the first finger could not be found, but that of the middle finger was dangling on the machinery, the entire extensor tendon of the middle finger being attached, and measuring over twelve inches in length.

The patient suffered but very little pain along the course of the tendon; no swelling of the fore-arm was observed. The stumps healed kindly, and the seaman was discharged, and returned to duty July 2, 1876.

The action of the blades of the eccentric in grinding the tendon into small fibres was well shown in the specimen, which was forwarded to the supervising surgeon-general. The foregoing memorandum is of no special interest to the annals of surgical literature except, perhaps, as a curiosity.

H. W. SAWTELLE, M. D.,
Assistant Surgeon U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING OCTOBER 27, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	429	20.71	27.46
Philadelphia	850,856	266	16.26	22.88
Brooklyn	527,830	188	18.52	24.31
Chicago	420,000	118	14.61	20.41
Boston	363,940	128	18.29	23.39
Providence	103,000	39	19.69	18.34
Worcester	52,977	18	17.67	22.00
Lowell	53,678	20	19.37	22.21
Cambridge	51,572	12	12.09	20.54
Fall River	50,372	30	30.97	22.04
Lawrence	37,626	13	17.97	23.32
Lynn	34,524	22	33.14	21.37
Springfield	32,976	5	7.88	19.69
Salem	26,739	9	17.50	23.57

BOOKS AND PAMPHLETS RECEIVED. — Catalogue of Dartmouth College for 1877-78.

Lectures on Fevers. By Alfred L. Loomis, M. D. New York: William Wood & Co. 1877. (For sale by A. Williams & Co.)

Cutaneous and Venereal Memoranda. By Henry G. Piffard, M. D., and George H. Fox, M. D. New York: William Wood & Co. 1877. (For sale by A. Williams & Co.)

Twenty-Second Annual Report on Births, Marriages, and Deaths in the City of Providence for the Year 1876. By Edwin M. Snow, M. D.

The Mechanism of Joints. By Harrison Allen, M. D. (Reprinted from the Transactions of the International Medical Congress.)

The Localization of Diseased Action in the Oesophagus. By Harrison Allen, M. D. (Reprinted from the Philadelphia Medical Times.)

Note on the Anatomy of the Perinæum. By Harrison Allen, M. D. (From the Transactions of the College of Physicians of Philadelphia.)

Transactions of the Texas State Medical Association. 1877.

The General Subject of Quarantine with reference to Cholera and Yellow Fever. By John M. Woodworth. (Extracted from the Transactions of the International Medical Congress.)

The Safety of Ships and those who Travel on them. By John M. Woodworth, M. D. (Read at the Annual Meeting of the American Public Health Association.)

The New Departure in Medical Teaching in the University of Michigan. By A. R. Palmer, M. D.

The St. Louis Book and News Company's Catalogue of Medical Books. 1877-78.

Transactions of the Kansas Medical Society. Lawrence, Kansas, May 9 and 10, 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, NOVEMBER 15, 1877. — NO. 20.

ULCERATIVE ENDOCARDITIS: EMBOLISM OF THE ARTERIES OF THE LEFT LEG.

BY CALVIN ELLIS, M. D.,

Professor of Clinical Medicine in Harvard University.

THE patient was an unmarried lady thirty-two years of age. She was always well till March, 1863, when she had an attack of acute rheumatism, beginning in the ankles, but soon involving the heart, as was shown by palpitation and pain in the cardiac region. There was so much dyspnœa that she was not allowed to walk up-stairs for four months, and the cardiac symptoms were more or less marked for two years. There was also some cough at the time. In January, 1869, she had another attack, not so severe as the first, and there were occasional pains in the chest and shoulders afterwards, particularly if she took cold. Though the dyspnœa did not increase unless she had rheumatism, it was noticeable, particularly on exertion. There was never any œdema. With the exception of the above symptoms, and pain in various parts of the body from time to time, she had no serious illness until the attack which caused her death. She was, however, subject to sick-headaches, in which there was unilateral pain and dimness of vision, the attacks lasting sometimes several days.

In November, 1873, while traveling in the cars, she was alarmed by increased pulsation of the heart, and a sensation as if it were higher up than usual. The pulse was 76, and somewhat full. The pulsation of the heart was felt perhaps a little farther to the left than usual, and was strong. There was a well-marked souffle at and near the apex, heard just before the shock of the first sound. There was nothing, however, which required more than a single visit, and she continued as well as usual, with occasional slight ailments.

During the year preceding the final attack the appetite, though not great, was sufficient, and she sometimes complained of feeling weak, but there were causes for depression of spirits, and she took a very active part in many good works.

On March 24, 1877, she reported that on the night of the 22d she began to feel pain in the head and left side of the chest, in the thighs,

and calves of the legs. The cheeks were red, and there was heat in the top of the head. The appetite had failed, and there was dryness of the mouth, but no thirst. Pulse 76 to 80. On examination of the heart the souffle previously described was still heard. Salicylic acid was ordered in doses of ten grains once in two hours. This caused tinnitus very quickly, and was diminished sufficiently to give relief from this symptom, and in a few days was replaced by quinine. Though the pulse rose to 96 and 100, and the appetite continued deficient, the pain diminished, and on the 17th there was none except in the head. She was now able to sit up, but continued quite feeble, and complained much of headache and of pain in the ankles during the months of April and May. Still she gained enough to drive out, but always complained of great weakness, which was but little influenced by gentian, nux vomica, iron, and a sufficient amount of nourishing food. Occasional visits only were made, as the principal complaint was of weakness.

Early in May she began to notice slight chills or rigors. These were at first mentioned incidentally as scarcely worthy of notice, but as they became more marked and were accompanied by increased debility and depression of spirits, close inquiries were made. It was then ascertained that they showed a tendency to appear at about nine o'clock in the morning, and that she had had fever in Rome many years before. The possible influence of some malarial poison being borne in mind, twelve grains of quinine were given six hours before the usual time for the appearance of the paroxysm. The result was very encouraging, as the rigor did not return. She continued to take two grains of quinine every three hours, and steadily improved until May 20th, when she looked and felt better than for some time. But at three A. M. on the morning of the 21st there was a rigor, and this was repeated at three P. M., preceded by flushing of the face. The pulse rose to 108 in the morning and 120 in the evening, when the temperature was 104.5°. Still she made but little complaint, except of weakness. Until this time she had sat up the greater part of the day, but was now advised to remain in bed, which she was ready to do. For several days there was no rigor, but as there was a suspicious chilly feeling at nine A. M. on the 23d, twelve grains of quinine were given at three on the following morning, but at noon she had a severe rigor, followed by heat. This recurred at four P. M. on the 25th, but is not again mentioned in the notes until the 29th. During this time the pulse was usually 108 in the morning and 120 in the evening. The temperature varied from 101° to 103°, and on the day of the last rigor rose to 104° in the morning and 104½° in the evening. For a number of days she was troubled with diplopia when looking at things in a certain direction. This she had observed before while taking quinine. There was occasionally a little wandering of the mind when she was only partially roused, but

never any real hallucination. The respiration was quite rapid, being 56 at noon of the 26th. A slight hacking had been noticed for some time, and a full inspiration always excited cough. Repeated examinations of the chest, however, failed to show any pulmonary trouble. The tongue was covered with a white coat. The appetite was moderate, but sufficient milk and oatmeal were taken to secure proper nourishment. The bowels, though at times sluggish, were generally moved without the use of medicine. The urine was examined a number of times. On May 27th the specific gravity was 1017, and there was some albumen, but no casts were found. The nights were often restless, so that bromide of potassium, aconite, and hyoscyamus were used from time to time. She complained of nothing but general weakness and stiffness of the knees. On the night of the 23d there was pain in the left iliac region, which was not mentioned again. On May 25th she was seen in consultation by Dr. Morrill Wyman, who was unable to assign any local cause for the rigors. On May 28th and 29th she was reported as feeling and looking better and brighter than for a long time. The pulse fell to 112, the temperature to $100\frac{3}{4}^{\circ}$.

At half past one P. M. on May 29th, after a chill, she suddenly complained that the left leg felt "as heavy as lead, cold, and queer," and the limb gradually became numb from the foot up to the groin. When seen, at half past three o'clock, the leg was colder to the hand than the other, the change of temperature having been noticed by the sister immediately after the symptoms showed themselves. Sensation to touch, heat, cold, or pinching was lost. No pulsation was felt in the arteries of the leg, but an examination could not be made above the popliteal region.

Until the rigors were reported there was nothing in the history of the case to excite any particular fear of serious disease. Depression of spirits and excessive devotion to charitable work had caused, as was supposed, such deterioration of health as to explain sufficiently the slow convalescence. The symptoms were only those of a slight rheumatic affection and debility. When the rigors became decided, other disease of a more serious character was feared, but the effect of the quinine was so satisfactory as to encourage the hope that they had a malarial origin. When, however, they returned and were repeated twice on the same day, when the pulse and temperature rose and continued high, fears were expressed of the presence of some serious internal disease, — either inflammation, embolism, or both. A grave suspicion of something of the kind was alone warranted, as repeated questioning and careful examination failed to show any local cause. But the nature of the disease was made clear by the sudden coldness, numbness, loss of sensation, and absence of pulsation in the left foot and leg. Ulcerative endocarditis, with embolism, was at once diagnosticated, and the family were informed of the

very dangerous and probably fatal character of the disease. On the morning following these symptoms she looked brighter than for some time. Pulse 108 in the morning, 100 in the evening. The temperature fell from 103° the previous evening to 100° in the morning and 99° in the evening. She complained only of a dull, constant pain in the left leg, and there was marked tenderness in that groin. No arterial pulsation was felt below the saphenous opening. To the hand the left leg felt cool just below the knee, and a little farther down was quite cold. The surface thermometer applied to the side of the calf showed little if any difference in the actual temperature, but on the following day the rapidity with which it was affected was very much greater in the healthy than in the diseased limb. Irregular dark-red or purplish spots were seen upon the foot, while the skin of the remaining portion, as well as that of most of the leg, had a dusky look. From this time until June 13th, when she died, with the exception of some temporary improvement in the color at times, marked changes for the worse took place in the affected limb. On the 3d the skin of the sole and heel was quite dark, while the color of the rest of the foot was better, but there was no improvement in the temperature. On the 5th an irregular line of demarkation began to show itself, extending downwards and outwards below the anterior tuberosity of the tibia. Below this the leg was dusky, and cold to the hand. On the 7th the ends of the toes felt hard and dry, and the discoloration of the rest of the leg was more marked. On the 9th the toes had evidently shriveled, and the skin of the heel had become dry and hard. By the 11th the line of demarkation had become very obvious and quite vascular, while the limb below was of a dark, dull purple color. Dr. Wyman, who saw the patient in my absence on the 8th, noticed that the pulsation had ceased on the upper part of the femoral artery, and it did not return. The heart was examined repeatedly, but, with the exception of a strong pulsation and some roughness with the first sound near the apex, nothing unusual was noticed; the souffle even, which had been so distinct before the last attack, had disappeared. The respiration was always rapid, generally about 48, until towards the close, when it rose to 66. An examination of the abdomen on the 5th showed that the spleen was apparently enlarged, but the liver was not above the full normal size. The mind was sufficiently clear much of the time, though there was some wandering occasionally, which increased towards the end. The prostration was marked. There was great restlessness, partly owing to pain or discomfort in the affected limb. Liquid nourishment in the form of milk and gruel was given regularly and frequently, and was borne well. The bowels generally acted sufficiently without artificial aid. The temperature, which has already been reported as falling at the time of the obstruction of the arteries, rose but little for several days. It was gen-

erally 100° in the morning, but did not rise above 102.5° in the evening, and was only once reported as high as that. On the 5th of June, however, it rose to 103° in the evening, continued to rise with some fluctuations, and on the 11th was 104° in the morning and 106° in the evening. The pulse continued 120, and rose with the temperature. On the 6th it was 136 in the evening; on the 9th, 148 and difficult to count; on the 12th, 160. Death took place on the 13th.

As it was evident that nothing could be done to remove the condition upon which all the symptoms depended, the treatment was confined to giving relief. Bromide of potassium, chloral, and liquid Dover's powder were mainly relied upon.

An autopsy was made twenty-six hours after death, but out of deference to the wishes of the family was carried no farther than was necessary to ascertain the true character of the disease.

There were some old pleural adhesions, but the lungs were normal. Pericardial surfaces everywhere united by old, firm false membranes. Heart considerably enlarged. Aortal valves thickened and somewhat corrugated. Mitral valve thickened and whiter than usual, but the orifice sufficiently free. On its right or anterior segment was a soft, reddish mass, looking like coagulated and partially decolorized blood, fissured and friable. This was perhaps two thirds of an inch in diameter and a quarter of an inch in thickness. It occupied a shallow depression caused by the destruction of the surface of the valve, and was surrounded and limited by the ragged edge of the healthy lining membrane. Liver considerably enlarged, so that it extended into the left hypochondrium. Spleen increased in size. Imbedded in its substance were irregular masses of a dull, tawny brown color, quite soft, and of various sizes, the largest perhaps an inch and a half through. These resembled partially decomposed fibrinous coagula, and were evidently the result of embolism. Kidneys soft and pale, but not otherwise remarkable. The arteries were examined as far as the common iliac and found pervious.

In volume vi. of Ziemssen's *Handbuch der speciellen Pathologie und Therapie*, page 60, may be found an excellent article upon the subject of "*diphtheritische or ulceröse endocarditis*." Though we are there informed that hardly two cases are known which resemble each other completely, our case illustrates so many points mentioned in the general history of the disease as to make it profitable to call attention to them, particularly as the affection is quite rare. The two forms described, the typhoid and the pyæmic, are both represented. The pain and prostration were followed by rigors, and these by the clear indications of local embolism. We had — at first integrity of mind ending at last in delirium and coma — marked prostration — rapidity of respiration, contrasting strongly with the absence of all appreciable lesion of the

lungs — a high pulse and temperature — rigors repeated frequently, regularly and irregularly — a cessation of the same towards the close — albuminuria, which we are told hardly ever fails — an enlarged spleen — the absence of any complaint of subjective cardiac symptoms, and of physical signs, which has been noticed even when ulceration has occurred, though physical signs are generally found. Vomiting and diarrhoea, which are common, were wanting in our case.

In regard to diagnosis, it is stated that ulcerative endocarditis can be rarely recognized with certainty. It is either entirely overlooked or only suspected. In our case an accurate diagnosis was impossible until the obstruction of the circulation occurred. There may be local cardiac signs which render the diagnosis very probable, but where these fail the disease is liable to be confounded with typhoid and intermittent fever, or other conditions. Though the rigors often recur irregularly, perhaps several times a day, they may be so regular as to simulate those of intermittent fever, while the enlargement of the spleen may also suggest typhoid. If, however, we bear in mind the apyrexia of intermittent fever and the regular course of the temperature in typhoid, we shall be much aided in diagnosis. But the most important point is the previous history of the case. Though recovery is not impossible on theoretical grounds, no case of the kind is known.

UNUSUAL CASE OF OVARIAN DISEASE.

BY E. R. CAMPBELL, M. D., TURNER'S FALLS.

THIS case illustrates in an extraordinary degree the great tolerance of paracentesis. The operation was resorted to one hundred and seventy-four times, and eighteen hundred and thirty pounds of fluid were removed; and when we consider the fact that the operation was performed only when the respiration became so embarrassed that the patient could not assume the horizontal position, it becomes one of the most remarkable cases I have been able to find recorded.

The patient, a maiden lady of about fifty-five years of age, was first tapped March 27, 1871, when a large amount of fluid was removed. Ovariectomy was deemed inadvisable on account of existing adhesions.

During eighteen months after the first operation tapping was resorted to only about once in three months. With few exceptions, during the following years, each succeeding operation was performed at shorter and shorter intervals, until the rapid accumulation of fluid and growth of the tumor necessitated, during the last month of the patient's life, an operation as often as once in three or four days.

The patient died October 16, 1876, nearly sixty-seven months after the tapping was first resorted to. The patient's diet consisted mostly

of eggs and other albuminous food, and during the whole period of the disease she regularly took liberal doses of muriated tincture of iron.

At each operation it was made an important point to empty the sack completely, using either the pump or siphon, thus preventing any escape of fluid into the peritoneal cavity. During the time between the operations the patient manifested a marked cheerfulness of mind, extending over the whole period of the disease, and did considerable ordinary housework. In reviewing the case it might naturally be asked, "What prolonged the life of this patient to such an unusual extent?" Her attending physicians thought it not unreasonable to suppose that her remarkable cheerfulness was an important item in giving tolerance to the operation, and that it materially aided the iron in sustaining the vitality of the system. And again, the endeavor to empty the sack at each operation, thus preventing the fluid from escaping into the peritoneal cavity and causing peritonitis, was undoubtedly a factor in prolonging the patient's life. Post-mortem examination revealed a large multilocular cyst of the left ovary. The solid tumor, which was extensively adherent, weighed thirty pounds.

This case occurred in the practice of Dr. D. Campbell, of Saxton's River, Vermont, but was operated upon by myself several times, and also by Dr. Foss, of Grafton.



RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Metastasis of Tumors. — The theory has long been maintained that secondary tumors may arise from emboli which become transferred by the circulation from primary growths to more or less remote parts of the body.

Cohnheim and Maas¹ have endeavored to ascertain the relation of the embolus to the assumed result: whether the cells of the embolus produce from themselves those of the metastatic nodules, or whether the latter arise from the cells of the diseased organ in consequence of an infection produced by the embolus.

Experiments previously made in this direction with cancerous and sarcomatous emboli have proved negative. Bits of periosteum were therefore introduced into the circulating blood, as it is well known that from their transplantation beneath the skin or between muscles definite forms of tissue may arise, the eventual product being a plate of bone.

Young rabbits, dogs, and fowl were selected for the experiments, and

¹ Virchow's Archiv, 1877, lxx., 161.

the most satisfactory results were obtained from the last. Fragments of periosteum from the tibia were placed in the jugular vein of the same animal under certain precautions, and were carried as emboli to the lungs. The animals were subsequently killed at various intervals after the operation, from three to twenty-seven days. The periosteal embolus was found as a solid cylinder, its shape and diameter corresponding with those of the canal of the artery in which it was contained. Its density and gross appearance rendered it probable that the formation of bone had begun, and the microscope demonstrated the fact that this had taken place. Lamellæ of bone were always found sixteen days after the operation. Proof was thus obtained of the possibility of the formation of bone from bits of periosteum introduced into the interior of blood-vessels. The embolus became vascularized from the vasa vasorum of the wall, as in the case of blood-thrombi, and the ossification took place around the vessels. It was consequently inferred that an independent growth and new formation of cells might also take place in cancerous emboli.

It does not follow, however, that the generalization of tumors occurs in this simple, mechanical manner. When the embolus was examined, twenty days after the operation, the periosteum was found to be shriveled, presenting no trace of ossification, and after a month the embolus itself had disappeared. It is therefore to be assumed that in cases of general cancerous affection of the body the individual lacks the power of removing material which is unnecessary for physiological purposes, as occurs in the history of callus. It is not the tumor itself which is malignant, but it becomes so in consequence of the diminished physiological power of resistance on the part of the individual.

It must therefore be concluded at present that so long as a normal metamorphosis of tissue takes place, the individual portions of tumors, which are so often received into the circulating fluids, are simply destroyed. The danger of metastasis begins when this power of destruction is diminished. The experience of the surgeon favors this hypothesis in those cases where apparently benign tumors, which have existed for years, begin to grow, to infiltrate the surrounding tissues, and to become generalized. The dissemination of tumors in a single tissue or system is also thus explained. In multiple cancer of the bones, secondary to cancer of the breast, it is very unlikely that embolism of the osseous tissue alone takes place, but it is much more probable that the bones offer more favorable opportunities for the further development of the cancerous germs. In other words they become destroyed elsewhere, but are not sufficiently opposed in the bones. This theory explains too the unsuccessful results of the attempts at inoculating healthy animals with portions of malignant growths.

Artificial Tuberculosis. — In the experiments hitherto made for the

purpose of producing tuberculosis in the lower animals, it has been doubtful whether the results were not rather to be attributed to the suppurative inflammation, with inspissation of the pus, which regularly follows the operative measures. In order to eliminate this source of error a series of experiments were made by Cohnheim and Salomon.¹ Particles of tuberculous substance were introduced into the anterior chambers of the eyes of rabbits, and after a few days the cornea became quite clear and remained so for several weeks. During this time the general condition of the animal was undisturbed, and the tuberculous fragments became constantly smaller, until finally only minute portions remained. About four weeks after the operation a sudden eruption of exceedingly small, pale-gray nodules appeared in the iris, and in a few days they became larger and white in the centre. They were more numerous also, so that upwards of forty were counted in certain eyes. The iris was swollen and reddened, and hypopion took place; the cornea also became inflamed, softened, and deformed, and at the end of four weeks was covered with a dense pannus.

The microscopical appearance of these nodules was like that of recent tubercles in the human species. The process was not found to extend beyond the eye, even when such material was inserted as gave rise to a general tuberculosis when placed in the abdomen of rabbits and guinea-pigs.

It was inferred from these experiments that tuberculosis from inoculation develops independently of traumatic inflammation, and in rabbits has a period of incubation of more than three weeks.

Intra-Uterine Respiration. — A case of placenta prævia, under the care of Dr. Galabin, is reported,² remarkable among other things for the apparent inhalation of air by the foetus, which was inferred from the expansion of the left lung to such a degree that it floated in water. It is also stated that during convulsive movements of the foetus before delivery “a gasping sound was heard from the uterus; this was audible at the other extremity of the small room, and upon auscultation had a startling loudness.”

It was supposed that during the operation of turning air had entered the uterus, and as the placenta was detached the child endeavored to breathe. Some four hours later a dead child was extracted. The mother is said to have been between the seventh and eighth months of her fourth pregnancy.

PATHOLOGICAL ANATOMY.

Lymphangioma. — The group of cystic tumors which are apparently composed of dilated lymph vessels forms the subject of a paper by Wegner.³

¹ Wiener medizinische Presse, 1877, xxxvi., 1175.

² The Lancet, April, 1877, 568.

³ Langenbeck's Archiv, 1877, xx., 641.

The congenital forms which have long been known as *macroglossia*, *macrocheilia*, *macromelia*, *hygroma* of the neck, etc., are included under this term, as well as others which may appear later in life. The ætiology of all forms is unknown, though the possible relation to traumatic causes may be suspected. The favorite seat of the tumors is the subcutaneous cellular tissue, the deep-seated fatty tissue around the large vessels, especially those of the neck, and the submucous tissue. The region of the body in which the growths have been found are the neck, tongue, cheek, forehead, axilla, thorax, shoulder, perinæum, penis, extremities, kidneys, and mesentery. Diffused and circumscribed forms occur. The former gradually infiltrate the surrounding tissues, the shape of the organ affected being preserved to a greater or less degree. This group is intimately connected with elephantiasis of the tongue, lips, cheek, and extremities. The circumscribed forms are found as more or less prominent tumors, which may be as large as a child's head. Their consistency may be firm and elastic, or soft and fluctuating. When the tumors are cut into, the contents escape as a thin serous fluid, except in those cases where they are clotted or mixed with blood, and a soft, spongy, fibrous tissue remains, somewhat resembling a collapsed lung. The spaces within this tissue vary exceedingly in size, are crossed by large and small trabeculæ, and separated by smooth, glistening membranes, which may be perforated like a sieve. Within this mesh-work masses of dense fibrous tissue may be found, as well as fat tissue, and the remains of the preëxisting structures of the diseased part.

These cavities are considered to be lymph spaces, lined with a single layer of flat endothelial cells, and they contain either fluid or clotted lymph. The latter, lymph-thrombus, is homogeneous, soft, and moist, or more or less dry, and may undergo colloid degeneration. Red blood corpuscles, granular corpuscles, fat drops and crystals, colloid globules, and pigment granules may be found in the contents. In addition to the previously mentioned tissues within the meshes of the tumor, circumscribed clusters of lymph corpuscles may be found which resemble lymphatic follicles.

According to the arrangement and shape of the lymph spaces three subdivisions of this group of tumors are made: the simple, cavernous, and cystoid lymphangioma.

The first contains capillary lymph vessels and spaces, which usually form an anastomosing net-work. The cavernous lymphangioma is composed of variously shaped and frequently communicating cavities, visible to the naked eye, and corresponds with the cavernous angioma or the *corpora cavernosa*. The cystoid lymphangioma is apparently composed of large and small cysts, which result from the dilatation of lymph spaces, although the form of the latter is lost and the communication with lymphatics is limited. The spaces may communicate with

the interior of veins, probably in consequence of the absorption of the walls of the latter from pressure, and thus a hæmato-lymphangioma may arise. A lymphangio-sarcoma may occur when the fibrous portions of the tumor assume a sarcomatous character.

The growth of these tumors is constant, slow, and limited, years being necessary for a considerable size to be attained. Periods of total cessation of the growth may be observed, followed by others of rapid progress. Acute enlargement may take place, usually to be regarded as inflammatory, and resulting from the absorption of material from the ulcerated or eroded surface of the tumor.

The simple and cavernous forms are sometimes compressible, which is not the case with the cystoid form, owing to the limited communication of the latter with the efferent lymph vessels.

It is considered that the structure of these tumors may be due to a gradual dilatation of preëxisting lymph channels, analogous to the formation of varicose veins, caused by obstruction of the larger lymphatics from scars, thrombi, inflammation, etc. It is further suggested that a proliferation of the endothelium of the wall of lymph vessels may take place, and within the resulting solid mass of cells cavities arise, which eventually communicate with the physiological spaces. It is also thought possible that lymph spaces may arise within granulation tissue formed in fibrous tissue, and a subsequent communication be established with lymph channels, a heteroplastic new formation as distinguished from the preceding homoplastic variety.

(To be concluded.)

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

BY F. B. GREENOUGH, M. D., SECRETARY.

MAY 28, 1877. *Large Vesical Calculus.* — DR. BUCKMINSTER BROWN showed a calculus, remarkable for its large size. It was taken from the body of an old man after death, many years since.¹ This calculus is composed of uric acid, with a little urate of ammonia. Weight, six and one half ounces. Length, three and one eighth inches. Width, one and seven eighths inches. Circumference at largest part, eight and three eighths inches. Analysis by Professor Bacon.²

Double Congenital Dislocation or Displacement of the Hip. — DR. BUCKMINSTER BROWN showed three photographs of a case of this malformation, which came under his observation in 1873, — a side, a front, and a back view.

The patient was a little girl five years old. She was born in New Hamp-

¹ Believed to have been a patient of Dr. Little, of Salem, and Dr. J. B. Brown, of Boston, about the year 1809.

² Presented by Dr. Brown to the Warren Pathological Museum of the Harvard Medical College.

shire, but had been passing some time in Georgetown, D. C. She was supposed to have had a curvature of the spine from infancy. While in Georgetown, her parents consulted Dr. Josiah Riley, of that city, who referred the case to Dr. Brown to be treated for the spinal curvature. The child had never walked well, tripped easily, and was unable to save herself from falling; was quickly fatigued. Had on a spinal apparatus. Had slight valgus. There was an excessive incurvation in the lumbar region (lordosis), almost angular at junction of the lumbar vertebræ with the sacrum. Some tenderness at this point. On thorough examination the heads of both femurs were found lodged from an inch and a half to two inches above, and slightly backward of their normal position.

Dr. Brown said that these cases are comparatively rare, and are frequently mistaken even by surgeons of distinction for spinal curvature. One he has now under observation was referred to him for treatment of spinal disease. He showed the photographs as an aid to diagnosis. They give at a glance all the characteristic features of the malposition, and would enable one who has seen them readily to recognize the complaint. When the patient is erect, the appearances are as exhibited in the photographs; when recumbent, the limb can be drawn down and pushed up again, traversing a space of from one and a half to three inches, going through what Professor Sayre of New York has aptly designated a telescoping process. In respect to the ætiology of this displacement there is much diversity of opinion. M. Guérin's theory is that the dislocation is caused by muscular spasm, and there is often permanent muscular contraction; that in no case is the cotyloid cavity entirely wanting.

In a letter from Paris on Orthopedic Surgery in Europe, published in the *JOURNAL* in 1846, Dr. Brown gave an account of this surgeon's opinion in regard to these cases, and a description of the course pursued by him in the treatment of three or four cases at that time in the wards of the *Hôpital des Enfants malades*. His theory was founded on the "result of his own observations, on numerous cases of congenital luxation, which he has treated, but more particularly have the various 'post-mortem' examinations, made either by himself or by his assistant, M. Kuhn, confirmed him in this opinion. In every case a cavity has been found, — in many cases, no doubt, extremely shallow, and in adults nearly obliterated, but never entirely."

M. Guérin says, "The head of the femur in all these cases rests on the dorsum of the ilium; the capsular ligament is of necessity much elongated, being stretched according to the extent of the deformity, either one inch and a half, or two, or sometimes even three inches."¹

Cruveilhier states that the displacement of the femur is due to a malformed head and imperfect acetabulum.

Dupuytren says it is owing to defective organization of the germ.

Carnochan considers the dislocation the result of muscular retraction from nervous disturbance, or deficiency, and of a cartilaginous state of portions of the cotyloid cavity, portions which are slow in becoming ossified. He thinks the arrest of development theory totally without foundation.

¹ Orthopedic Surgery in Europe. A letter from Buckminster Brown, M. D., dated Paris, May 19, 1846. *Boston Medical and Surgical Journal*, July 1, 1846.

Brodhurst, of London, says it is always in consequence of preternatural labor, when violent traction has been employed, as in presentation of the nates. He states that in cases otherwise well formed the acetabulum at birth is never malformed.

Dr. Sayre, of New York, thinks it is always congenital malformation of the cavity of the acetabulum. In truth, few writers who have referred to this subject agree in opinion in respect to the cause of this displacement, and some theories advanced are entirely opposed to each other.

Dr. JACKSON said that he had had the opportunity of examining the body of an adult patient who had had a dislocation of the femur shortly after birth. The limb was shortened to such an extent that the foot was raised four inches. The motion of the head of the femur on the ilium was very free, and the head itself was about one half absorbed. The cavity of the acetabulum was small, and its contour irregular. There was no appearance on the pelvis of any attempt at the formation of a new socket, but the surface of the ilium over which the head swept was polished smooth. With regard to congenital dislocation he said that he had seen it in a child who was otherwise malformed, and had looked upon it as a part of the malformation. The child had never been able to walk well, was obliged to wear a spinal support, and had a valgus of the right foot. The heads of both femurs were displaced upwards and slightly backwards.

Dr. WHEELER spoke of a child born with a congenital dislocation of one hip, where the trouble was not appreciated until it began to try to walk. In this case the parents laid the blame of this condition on the shoulders of the physician who had been in attendance at the birth of the child.

Dr. WHITE said that it would be interesting to know whether the large calculus shown by Dr. Brown had been taken from an English subject. He said that the specimens of calculi in the college museum from English subjects were mostly uric acid ones. The size of this specimen is interesting as showing how large a uric acid calculus may become without setting up an irritation of the bladder, and the consequent phosphatic deposit.

Scrofulous Synovitis. — Dr. C. P. PUTNAM showed a patient, a boy, suffering with this disease of the right knee and left elbow. The affection of the joints had come on after an attack of measles. The right elbow had recently been similarly affected. The knee had from the first been very decidedly flexed, and although it had been kept extended by dextrine and plaster-of-Paris bandages it had returned to its old posture as soon as the bandages were removed. The pain and suffering had been intense, enough to keep him from moving and to prevent his sleep. Dr. Putnam had put on a very simple and cheap apparatus, which by extension and counter-extension took the pressure from the joints and allowed the boy to walk about and use his limbs with comparative freedom from pain.

OCTOBER 8, 1877. *Fracture of the Patella.* — Dr. DWIGHT showed a patient with fracture of the patella, and gave the following account: In October, 1875, he saw the patient for the first time. He was a young man about twenty-three years old, of light make, who had been an officer on a sailing

vessel. About the middle of the preceding June, when off Cape Horn, he was knocked senseless by a heavy sea, and sustained a transverse fracture of the left patella, accompanied with much inflammation and swelling. It was more than two months before he reached Liverpool, during which time he had received no regular treatment, and had used his leg more or less. He spent some six weeks in the hospital at Liverpool, but no serious effort was made to obtain union, and he was dismissed with an apparatus consisting of two bands around the leg, one above, the other below the knee, united by straps, which did little good. When he consulted Dr. Dwight, four months after the injury, there was no trace of ligamentous union, and no apparent thickening of the tissues in front of the joint. Walking was, of course, very seriously interfered with. The patient was very anxious that something should be done. The fragments were put in apposition and held so by a dextrine bandage, but the patient was told that there was little more than a chance of much benefit from it. In twenty-four hours, however, it was apparent that the bandage could not be borne, and it was removed. Dr. Hodges then saw the case in consultation, and it was decided to apply a carefully padded hain-splint, with four straps, and to give up all ideas of further treatment. In the course of the next few weeks the patient received several falls, one of which was quite severe, and caused an acute synovitis of the joint, which, however, readily subsided. He gradually became more expert in walking, and in the spring went to sea again. The patient had returned a few days before, and stated that for a year he had not used the splint. He could walk as fast as most men do when not attempting real speed, and could walk several miles without a cane. He could go up-stairs putting each foot above the other alternately, but on going down-stairs his knee would "give." He could put the broken leg on the seat of a chair and raise himself on to it with but little more of a push than most men would give. On examination the fascia was found thickened, but there was no trace of anything that could be called a ligament between the fragments, which when the knee was strongly flexed were about four and a half inches apart. He maintained that he had more confidence in the injured leg than in the well one. His chief trouble is inability to run.

DR. BIGELOW said that the case was an interesting one, as the mechanics of the joint were strikingly altered by the entire absence of the patella in front of the joint, the leverage of the extensor muscles over the joint being just so much shortened. In point of fact, the place of the patella was supplied by the soft tissues in front of the joint, which Dr. Bigelow found to be somewhat thickened, and with which the fragments had united. The result was a wonderfully good one, but Dr. Bigelow could not understand the patient's statement that that leg was the stronger one.

Spontaneous Fracture and Absorption of the Bones in Locomotor Ataxia. —

DR. J. J. PUTNAM showed several casts of bones taken from a case in Charcot's wards. Casts of the femur, radius, ulna, and scapulæ were exhibited, all of which were more or less wasted, and both scapulæ as well as some of the long bones showed signs of old fractures with subsequent union. He said that in this disease the bones become brittle and break; the joints also are apt to become inflamed, as in dry arthritis, but there is not the same tendency to the

formation of exostoses that there is in the latter disease, and absorption takes place more rapidly. The joints most liable to be affected are the knee, shoulder, and hip, in the above order with regard to frequency, whereas in dry arthritis it is the reverse, the hip being the most and the knee the least frequently affected. The subject is treated by Charcot at some length in his *Leçons sur les Maladies du Système nerveux*. It is strange that under these circumstances union should take place. This disease, as Charcot points out, is not the only affection of the spinal cord which may cause these lesions of the bones. They have been observed to follow direct injuries to the spine, etc. Dr. Putnam said that cases of supposed brutality to insane patients on the part of ward tenders, nurses, etc., where bones were supposed to be broken by rough handling, might be the result of their fragile condition, due to some lesion of the nervous centres.

DR. BIGELOW spoke of a gentleman suffering from locomotor ataxia who had a swelling appear on the elbow, followed by dislocation of that joint.

DR. MINOT said that in that case the course of the disease was exactly that described by Charcot. He had pain about the joint and a swelling, which latter never disappeared altogether.

DR. JACKSON said that union in these cases of diseased bone was an interesting fact; the same had been noticed in cases of rickets. He mentioned the case of a woman who fractured her thigh, having had one of her breasts amputated for cancer. Union of the femur had taken place, but the bone was found to be filled with carcinomatous material.

OCTOBER 22, 1877. *Aneurism of the Aorta*. — DR. TARBELL reported the case. The patient, a stevedore, fifty-nine years old, had seven years ago tumbled into the hold of a vessel, and a bale of merchandise had fallen on his chest. He was troubled with some obscure pains for three years, when after a second accident Dr. Tarbell was first called to see him. At that time he was suffering much pain in his chest. There was a pulsation of left side of thorax, most distinctly felt and seen near cartilages of second and third ribs. Both systolic and diastolic murmur was heard, and the pulsation of right radial artery was perceptibly in advance of left, though the latter symptom was not afterward noticed. The patient kept up and about, having been down on the wharf the day preceding his death, which was three days before. He was suddenly taken with a fit of coughing, expectorated about a pint of blood, and died in a few hours.

DR. CUTLER, who had made the autopsy, showed the specimen, which was a cylindrical aneurism of part of the ascending, the whole of the transverse, and part of the descending aorta. The aneurism was adherent to the left lung, and had perforated it by an orifice which would nearly admit two fingers. The visceral pleura was stripped up for a space two and a half inches wide and five inches long; from the edge of this, rupture and perforation had taken place into the pleural sac, so that hæmorrhage occurred at the same time into the lung and pleural cavity. The left pleural sac was found nearly full of clot and serum. The aorta showed extensive endarteritis. The left ventricle was dilated and hypertrophied. The œsophagus had been compressed over a space three inches in length. None of the other organs showed signs of pressure.

DR. KNIGHT said that he had seen this case several times during the past summer, and thought that Dr. Tarbell was mistaken when he said that he had been at work up to the day before his death, as he thought that he had been confined to the house the greater part of the time for two or three months, and part of that time had lain on his back, and taken large doses of iodide of potassium.

DR. TARBELL said that the patient had stayed at home for two or three weeks after Dr. Knight had first seen him, but that since then he had been down at the wharf most of the time, not working himself, but overseeing the workmen, and that such certainly was the case the day preceding his death.

DR. KNIGHT said that the presence of the diastolic murmur mentioned by Dr. Tarbell had not been explained, as the autopsy did not show whether there was any regurgitation at the mitral valve.

DR. CUTLER said that the heart was opened in such a way as not to injure the aneurism as a specimen, but he was sure that when the left ventricle was opened the auricle was not emptied until the heart was tipped upside down, showing that the mitral valve was sufficient.

Functional Spasm. — DR. J. J. PUTNAM showed a young man afflicted with a rare form of spasm, analogous to some of those recently described by Dr. Weir Mitchell, of Philadelphia. Attention was first called to the peculiarly awkward, swinging gait with which he entered the room. He was then stripped, and when told to put his right hand on his head, or to hold a glass of water at arm's length, the muscles of the shoulders, neck, and arm of the same side, and to some extent of those of the opposite side, were seen to be thrown into violent convulsions. Antagonistic groups of muscles contracting at once, the resulting movements had a peculiar character, as if the patient were wrestling with an unseen antagonist. While he was standing at rest only slight jerking motions of the arm and fingers were to be seen, and fibrillary twitching of the muscles of the shoulders. The muscles principally involved were very powerful, perhaps even more so than the corresponding muscles of the less affected side, and a lateral curvature of the spine, towards the right, existed in the cervical region, with compensatory curves below. As the upper curve seemed to be somewhat exaggerated during the convulsive attacks, it was assumed to have originated in the unequal traction of the muscles on the two sides. This condition had existed for nearly three years in full force, but there had been signs of trouble during several years before that, dating back, as the patient thinks, to a season of prolonged mental distress, through which he passed eight years ago.

The absence of the oscillatory movements characteristic of disseminated sclerosis, as well as of those which occur in typical cases of chorea, was pointed out, but it was remarked that although the clinical distinctions between these different diseases were clear enough, a sort of physiological relationship probably existed between them.

Ulcerative Endocarditis; Embolism of the Arteries of the Left Leg. — DR. ELLIS read a paper on this subject.¹

In answer to a question from Dr. Jackson as to the state of the heart, Dr.

¹ See page 549 of this number.

Ellis said that nine years ago a souffle had been heard, but that there had been no marked cardiac symptoms since the rheumatic attack many years before. The patient had also had some pain in the feet for a time, which had, however, entirely disappeared.

DR. BOWDITCH asked whether this case differed from one of ordinary cardiac disease of rheumatic origin resulting in embolism, and how Dr. Ellis was able to make the diagnosis of ulcerative endocarditis as he had.

DR. ELLIS said that if an endocarditis resulting from rheumatic cardiac affection should come on suddenly and present the acute symptoms that this case did, the differential diagnosis between it and ulcerative endocarditis would be impossible. He had seen a similar case to this previously, and when the rigors, high pulse and temperature, etc., came on, with evidence of embolism, he felt justified in making the diagnosis. These acute constitutional symptoms he thought were due to the inflammation of the endocardium. The indurated masses in the spleen, the result of emboli, were, he said, not of the deep, dark-red color seen in recent plugging of the arteries, nor of the pale yellowish hue found in old embolism, but something between the two, a tawny yellow or brown.

In answer to a question from Dr. Cutler as to whether the color of the embolic indurations was not due to the presence of bacteria, that is micrococci, Dr. Ellis asked if a special form of bacterium was recognized as peculiar to cases of ulcerative endocarditis.

DR. F. C. SHATTUCK said that according to the observations of some German pathologists (Recklinghausen, Orth, and others) the emboli which become detached from the interior of the heart in acute ulcerative or diphtheritic endocarditis contain micrococci in great numbers, and that these organisms are held responsible for the malignant character of the affection. Those miliary embolic abscesses of the skin, for instance, which are said by Orth to occur solely in connection with this affection, are shown by the microscope to inclose each a minute cutaneous vessel, the lumen of which is filled with micrococci. Micrococci are classed by these pathologists as a distinct form of bacteria, appear as very minute granules of uniform size, and closely aggregated together in "nests" or "colonies," do not possess independent motion, are unaffected by boiling in absolute alcohol and ether or by treatment with glacial acetic acid or alkali, and are stained by hæmatoxylin. According to Oertel their presence in the exudation false membranes and underlying tissues is an unfailing characteristic of the diphtheritic process.

DR. BIGELOW said that this was debatable ground. The number of low organisms of this genus is very great, resulting from decomposition and other ferments. A few of them have been classified, and their existence as a recognizable variety apparently settled; as, for example, the bacterium of charbon. The researches of Davaine and Pasteur seem to settle the fact as to this at least. But probably only a few of the great variety of these organisms will ever be distinguishable one from the other by the means of investigation which we possess or ever shall possess.

AIX-LES-BAINS AND MARLIOZ.¹

THERE is no more cheery literature than that composed of treatises upon various health resorts, especially when written by resident physicians to the establishments; the feelings and interests which prompted the artificers of Ephesus to uphold the honor of Diana must have been mild compared with those which dispose the modern resident physician at a watering-place to look favorably upon the healing influences by which he is surrounded. One who, in a moment of sadness, is inclined to take a mournful view of the lot of humanity and of the evils which afflict mankind should pick up one of those little volumes and see how easily they are all dispelled. He will presently find himself eager to lay a wager in favor of mineral water and thermal baths against the curse unto the third and fourth generations, and almost ready to take one as against any chance of genuine punishment to the original evil doer. In any case, after the perusal the depression will have vanished, and the reader will feel refreshed and take a much brighter view of the situation in general. Let him beware, however, lest this be carried too far; even at the instigation of balneotherapy the constitution should not be treated as a house of cards and upset for the pleasure of rebuilding. Another caution not to be found in these books: there is one woe which springs will not cure, but rather tend to aggravate, and that is impecuniosity. Bearing these slight suggestions in mind there is nothing but profit to be derived from the reading of this and kindred books. Mineral springs are often even more fortunate than the gentle rain from heaven, being blessed not only by him who gives and him who takes, but also sometimes by a third, who is thus relieved of a case which had perhaps exhausted all of his ingenuity and some of his patience, and we do not doubt that it is thus with those under consideration. We have every reason to consider the baths of Aix and the waters of Marlioz and Challes as happily complementary of each other. We know that the former are very "highly gifted as regards thermality" (though much less so than our hot springs in Arkansas, in regard to which it is a pity there is not more exact and general information), and that the latter are very strongly sulphurous; we are sure that these waters are administered with skill and discretion by the resident physicians, and they have long been famous for their excellent effects in rheumatic and syphilitic affections. Perhaps after admitting so much we shall seem hypercritical when we say that in this and similar monographs we should like to have a chapter devoted to the diseases and states of the system to which the particular *ingesta* and *circumfusa* in question are *not suited*, with something more precise about the effects upon those whose occupation constantly exposes them to the influence of the waters; and in this case especially we should have liked some of the results of treatment in the hospital for the poor founded by the mother of Napoleon III. As it is, we are almost ready to affirm that there are no disorders of the body at least, which these and perhaps all springs will not cure or greatly alleviate (let us be cautious), and that

¹ *The Spas of Aix-les-Bains and Marlioz.* By FRANCIS BERTIER, M. D., Paris, Physician to Bathing Establishment of Aix-les-Bains and Marlioz. London: J. and A. Churchill. 1877.

the waters, though terrible in their anger towards the thoughtless stranger who does not put himself under proper medical supervision, are very considerate of the native who earns his daily bread in their midst.

THE PRACTITIONER'S REFERENCE BOOK.¹

THIS book is not one of those small pocket compendia whose chief duty seems to be to encumber an already overcrowded pocket, but is a handsomely bound volume, containing in legible type a great variety of information of a character and in a shape most useful to the physician. A glance at its contents will give some idea of the scope of the work. First we find the inevitable metrical weights and measures in a chapter devoted to general information. A chapter is then given to Therapeutic Hints, some fifty pages being set apart for doses. Information is also to be found here about the medication of baths, lists of remedies ordinarily employed in different diseases, obstetric memoranda, poisons, disinfectants, etc., all of which are treated with sufficient fullness to make them available for reference. The chapter on dietetic rules is a practical one, and contains a number of useful hints and receipts. We find also in this book rules for conducting a post-mortem examination, and last in order of mention, but first in the book, the Hippocratic oath. We can cordially recommend it to the profession.

MEDICAL NOTES.

— A distinguished physician and surgeon, Dr. Paul F. Eve, died at Nashville, Tenn., on the 3d instant. He was born in Augusta, Ga., June 27, 1806; graduated at the University of Georgia in 1826; graduated M. D. at the Pennsylvania University in 1828, and afterward studied in Europe. He was a surgeon in the Polish Revolution of 1831. Dr. Eve became professor of surgery in the Medical College of Georgia in 1832; in Louisville, Ky., University in 1849; in the Nashville, Tenn., University in 1850, and in Missouri Medical College in 1868. He was made, in 1870, professor of operative and clinical surgery in the Nashville University. In 1857 he was president of the American Medical Association, and he served as a surgeon in the Confederate army. He is said to have crossed the Atlantic fourteen times, mainly with professional views. He declined professorships in New York and Philadelphia. He had remarkable success as a lithotomist, performing a great number of operations in that branch of surgery.

— Dr. C. G. Frowert reports in the *Medical Record* his experience with ingluvin in a very obstinate case of vomiting in pregnancy. During two preceding pregnancies the patient had suffered extremely from this trouble during nearly the whole time. After trying various remedies Dr. Frowert thought of ingluvin, and began with five grains every two hours. He, in his own words, "continued this for three or four days without any appreciable result

¹ *The Practitioner's Reference Book: Adapted to the Use of the Physician, the Pharmacist, and the Student.* By RICHARD J. DUNGLISON, M. D. Philadelphia: Lindsay and Blakiston. 1877. Pp. 341.

other than diminishing the violence of the attacks of retching and vomiting. Increased the dose to *ten grains* every two hours. This seemed to relieve my patient to such an extent that she only vomited before meals, at the sight or smell of food. I then increased the dose to fifteen grains, giving it half an hour before each meal. This soon had the desired effect of controlling the attacks. Continuing the same dose every three hours, the vomiting and nausea ceased entirely in four or five days. She made a complete recovery in the second month of her pregnancy, in three weeks from the time she commenced the use of *ingluvin*."

— Dr. Richard M. Ingalls, a prominent physician in East Boston, died Sunday afternoon at his residence, 11 Central Square, of diphtheria and pneumonia. He was born in Naples, Me., in 1839, and graduated from the Harvard Medical School in 1866. Since graduation he has practiced in East Boston, and was prominent in Masonic circles, being a member of Baalbec Lodge, St. John's Chapter, and William Parkman Commandery.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. T. GAILLARD THOMAS FOR DISEASES OF WOMEN.

General Subinvolution with Prolapsus of the Uterus and Vagina. — Eliza G., a native of Ireland, and thirty-nine years of age. She has been married sixteen years, and has had seven children, but no miscarriages. The last child was born eight years ago, but she is still living with her husband. She says she has been complaining for three months past, but was quite well before that. She first noticed a little lump in the right side, with pain, which "struck upward" over the hepatic region, and extended as far as the head. She also complains of a "weakness in the back," and suffers from leucorrhœa at times. Her menses are regular, and she never has any trouble with the bladder. This is all she has to tell us, and you will notice how very vague the symptoms are. There is nothing in them whatever to direct our attention to the uterus except the backache and leucorrhœa; but on account of these I thought it was better to make an examination, and when I tell you what I found I am sure you will be not a little surprised to learn the gravity of the affection here present when the symptoms were so trivial. This case shows very conclusively the value of physical diagnosis, and any one who had not resorted to it here would probably have treated the woman for disorder of her liver. I cannot impress upon you too strongly the very great importance of physical exploration, not only in uterine but in all other diseases. Well, on passing my finger into the vagina (which, by the way, I had some difficulty in doing), it encountered the cervix, very much enlarged, within two inches from its entrance. The reason that I had trouble in introducing the finger was that both the anterior and posterior walls of the vagina were prolapsed to a marked degree. With the former the base of the bladder was dragged down, and with the latter the rectum, constituting what is known as a rectocele, so that two distinct tumors were formed at the vulva, the presence of which the patient says she has noticed for some time. On conjoined manipulation the

body of the uterus is found to be abnormally large, and as the probe passes into its cavity for three and a half inches we judge it to be in a state of subinvolution. Furthermore, the examination reveals that there is no perinæum. No cicatricial tissue is present, and we naturally ask what has become of it? The fact is it has become completely spread out, as it were, by the rectocele.

Now, what has taken place? The vagina was weakened at the time of the last pregnancy. Being large and flabby it fell out of the body after the labor, and gradually carried down the rectum with its posterior and the bladder with its anterior wall. Subinvolution of the uterus also occurred, and it is now dragging that organ down too, and will soon have it out of the body. The process of retrograde metamorphosis after parturition was interfered with not only in the vagina and uterus but also in the perinæum. The perinæum always undergoes a process of preparation and development before labor, and it is just as necessary that involution should take place in it as in the uterus and vagina. The difference between the condition of the perinæum at ordinary times and at the close of pregnancy is very evidently shown when we undertake to remove large fibroids, perhaps with the obstetrical forceps, as I have sometimes done. In such cases the perinæum invariably yields, while as you know, of course, it is the very rare exception in parturition. The reason is that it has not undergone the necessary preparation for the strain to be brought upon it, which always accompanies utero-gestation. At present our patient is a fair candidate for prolapsus in the third degree, a complete *proci-dentia uteri*.

Such cases as these are difficult to treat satisfactorily. If the time of the menopause had arrived we could count upon the entire disappearance of the subinvolution of the uterus. But some years must yet elapse before that occurs, and I do not hesitate to say that there are no means at our command for reducing the organ to its normal size in such a case as this. I know it is claimed that this can be done by the application of the actual cautery or potassa fusa (after the method of Sir Henry Bennett) to the cervix, but it does no good whatever, and only endangers the safety of the patient. This prolapsus of the uterus is taking place by reason of the traction exerted from below, and there are two ways of preventing it from going on any further: the first is for the patient to wear a well-fitting and appropriate pessary to hold up the uterus at the same time that astringent injections are used upon the vagina. The proper pessary for this case is one made of hard rubber, such as I show you now, and consisting of a cup, to receive the hypertrophied cervix, and a supporting stem divided into two branches, one of which curves anteriorly towards the symphysis pubis, and the other posteriorly towards the anus. From the extremity of each of these arms passes an India-rubber band which is attached to an abdominal belt, and the uterus suspended in this way will be able to resist all the dragging force that is exerted upon it from below. The great advantage of this instrument is that the patient can apply it herself, and it should always be removed at night. After a time there will be almost no traction to overcome, for the mere retaining of the vagina in position will gradually remove the engorgement now existing, and its walls will become more and more strengthened by the persistent use of the astringent injections of which I

spoke. If this plan of treatment is adopted I think I can show her to you very greatly improved in the course of a very few months.

The other plan to which I alluded is the operation for the removal of a portion of both the anterior and posterior walls of the vagina and the formation of a firm ridge of support in each. This would prevent any future prolapse of the vagina but not of the uterus.

Retroflexion, with Hyperplasia of the Uterus. — This patient, to whom we have but a few minutes left to devote, comes to us with a diagnosis. She was sent to me by a gynaecologist of considerable standing, who stated that she was suffering from ante flexion of the uterus and a small ovarian cyst. But even the best men are liable to mistakes, and if he had examined the case a second time no doubt he would have discovered that this diagnosis was incorrect. Of course, it makes a very great difference to the patient whether she has an ovarian cyst or some comparatively trifling affection, and we cannot be too careful in our diagnoses. On making an examination with the left forefinger in the vagina, and the fingers of the other hand pressed upon the abdomen, I failed to find ante flexion, but detected a body feeling somewhat like an orange behind and below the cervix uteri. Then placing the patient in Sims's position, and raising the side of the table on which the buttocks rest a few inches (as is now my invariable custom in making uterine examinations) so as to exaggerate the position and throw the viscera well forward, I passed the probe and found that it entered the cavity for three inches in a direction downward and backward. Then removing the probe I succeeded in getting two fingers under the supposed ovarian cyst and without any difficulty pushed it up, when I reinserted the probe and found that it passed in the normal curve of the uterus. I now rocked the uterus gently backward and forward by means of the sound without occasioning the patient the slightest uneasiness, and thereby conclusively demonstrated the perfect mobility of the organ. The diagnosis, therefore, was retroflexion, with a hypertrophied and hyperplastic condition of the uterus.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. W. A. B. FIFIELD.

[REPORTED BY W. D. ROBERTSON, HOUSE SURGEON.]

CASE I. *Fracture of Humerus and Radius of the same Arm.* — On the 28th of July a lady, fifty-three years old, while hastily going down-stairs, fell. The right arm being extended to protect her face, in falling her whole weight was projected upon it, and the arm doubled under her. She was brought at once to the hospital, presenting a fracture of the humerus immediately above the condyles, and a Colles fracture of the same arm. By making forcible extension of the arm from the wrist to the axilla it was found that both fractures were perfectly reduced to the normal position of the arm in extension. Upon flexing the elbow to the usual angle for applying the customary internal angular splint it was observed that the lower fragment of the humerus was tilted backwards and downwards.

Considerable effusion about the joint had taken place. It was decided to place the arm from finger-tips to axilla in a straight anterior and posterior splint and two light lateral splints to support the sides of the arm, the whole being well padded with cotton. The following day the patient reported that she had spent a good night, and that the splints were comfortable.

August 3d the splints were removed, and considerable ecchymosis over the points of fractures was noticed. The position of the fragments was good. Splints repadded and reapplied, the arm to be rested upon a pillow.

August 10th. Patient is up and dressed; swelling much subsided; position good.

August 19th. Splints were removed. No deformity either in elbow or wrist. Some union in both fractures.

August 23d. Passive motion of elbow ordered each day.

August 28th. Passive motion under ether; good union had taken place; position perfect. Omit splints, and apply a bandage from the wrist to above the elbow.

September 6th. Patient can flex elbow quite a distance, and has considerable motion in wrist. Flannel bandage was applied to arm, and the patient discharged well. The treatment of extension adopted in this case, which was opposite to the customary one, has been highly recommended by French authorities on these grounds: that the power of flexion of the arm is four times greater than that of extension, therefore better use is obtained after active treatment has been suspended; that the parts are more exactly kept in position anatomically by extension than by flexion, and more easily so maintained.

CASE II. *Compound Fracture of the Metatarsus*.—Frank F., horse-car conductor, twenty-one years old, while stepping from his car, September 27th, slipped, the car passing over his left foot, at about the middle of the metatarsus, fracturing the second and third metatarsal bones, producing two clean-cut wounds communicating with the fractured parts. Crepitus and mobility present. The probe touched the denuded bones. The patient was placed upon a posterior (calf) splint with a sliding foot-rest. The wounds were sealed with compound tincture of benzoin.

September 28th. No pain. Passed a comfortable night.

September 29th. Dressings removed. Both wounds healed by first intention. No discharge. No pain.

October 3d. Complains of the upper strap of the splint below the knee being too tight, and it has caused some swelling of the leg. No heat over fracture, nor pain on light pressure.

October 4th. Swelling completely subsided since the loosening of strap. The skin looks perfectly healthy. Wounds quiet.

October 16th. Patient passed a restless night owing to a disturbance in the ward from a delirious patient, and kicked the dressings nearly off. The skin is chafed by the casting about, and looks red and tender. The wounds, however, present no indication of deep suppuration, and are only superficially tender. Omit benzoin, and apply simple cerate.

October 20th. Skin in a healthy suppurating state. No deep suppuration. Omit simple cerate, and apply pulverized iodoform. Good union in fragments.

October 26th. Is sitting up and moves about wards on crutches. Omit iodoform and apply strapping. Can bear his weight on the foot without pain.

November 1st. Omit all dressing.

November 3d. Discharged, well.

There has not been at any time deep suppuration as might be expected from a compound fracture, and not until the second week, when the parts were roughly chafed, did the benzoin produce any irritation of the skin.

There is no danger of sealing up a similar wound from the air even when compound fractures exist below, since the pulse, temperature, and adjacent glands, as well as the part itself, all constitute so ready and faithful an index of the approach of the bad effects of such treatment, and since the remedy, namely, the reproduction of its compound nature by an incision, is so easy. A number of similar injuries have been treated with this dressing in the wards with most favorable results.

CASE III. *Fracture of the Pelvis, with Recovery.*—William K., forty two years old, upon the 22d of September fell down stairs, sustaining a fracture of the crest of the ilium and a slight scalp wound. The fragment was held by the soft parts in tolerable position over the seat of its detachment. It was therefore decided that no dressing was needed. Crepitus and the mobility of fragment was easily obtained upon motion of the thigh or pelvis. The following day the patient complained of extreme tenderness across the abdomen, which was distended. Pulse rapid, bowels constipated. Turpentine stupes were applied to abdomen, and the following stimulating injection given with good result:—

R \bar{y} Soap suds	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	Oi.
Olive oil	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3 ij.
Turpentine	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	ij.

followed by a suppository containing two grains of opium and half a grain of extract of belladonna every six hours.

The next day the tympanites had nearly disappeared, the tenderness was much diminished, and the pulse fell to nearly normal. Patient complained of some pain and stiffness in the region of fracture and great pain on motion of leg of affected side. Omit suppository.

September 28th. Complains of loss of appetite and weakness. Ordered brandy, four ounces per diem.

October 2d. General condition much improved. Appetite good. Bowels regular. No tenderness over the seat of fracture, which seems to have united.

October 5th. Patient allowed to move about the ward a little. Says that upon standing on the leg to walk he feels "a grating" half-way between the pubes and anterior superior spine. No crepitus can be detected on manipulation, but the patient was ordered to bed.

October 16th. Union is firm. Can walk by the aid of crutches without pain. The patient continued to walk with crutches another week, and was discharged, well, November 2d, complaining of nothing but a slight stiffness of the thigh of the affected side.

CASE IV. *Fracture of the Pelvis; Recovery.*—Charles D., watchman, on the night of the 3d of August, while attempting to catch an ascending

elevator, missed his mark, fell between the elevator and the floor, and was dragged up three flights before the elevator could be controlled. He was immediately brought to the hospital, presenting a fracture of the pelvis, as shown by crepitus obtained by grasping the anterior spines and forcing them apart; also upon rotation and flexion of the left thigh, which lay with the foot everted in a powerless condition. Upon rotating the thigh when the pelvis was held immovable, the trochanters described their proper circle, and the crepitus was almost absent; but upon rotating the thigh, the knee being flexed to give a leverage, the pelvis unsupported, the crest of the ilium was seen to rotate with the leg, crepitus being very marked on placing the hand upon a point half-way between the symphysis of the pubes and the anterior superior spine. Upon rotation of the leg, or spreading the anterior spines apart, pain was complained of in the sacrum. The shock was slight. The urine drawn by catheter not bloody. No other apparent injuries. A broad band of strong cloth, with buckles attached to readjust to the form of the body, was ordered to be applied to the pelvis. The next day the patient had retention of urine, with great tenderness over the seat of fracture. Morphine *pro re natâ* and liquid diet. The following day, the 5th of August, symptoms of peritonitis appeared. A poultice was applied to abdomen and morphia given subcutaneously.

August 6th. Tympanites still present. Omit poultice. Give injection.

R̄ Soap suds	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	Oi.
Olive oil	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3 ij.
Turpentine	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3 ij.

Turpentine stupes to abdomen. Follow the injection, after evacuation, by the following suppository:—

R̄ Belladonnæ	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	gr. ½
Pulv. opii	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	gr. ij.

every eight hours.

August 8th. Abdomen less tender. Retention has disappeared. Discontinue the suppositories. The patient complains of headache. Give bromide of potassium, forty grains every four hours until sleep.

August 10th. No headache. Bowels and urine normal. Tenderness over fracture and enlarged adjacent glands.

August 20th. No change. Feels comfortable, except on motion.

September 3d. Can sit up in bed without much pain. Tenderness present over the ramus of right os pubis, but no crepitus.

September 14th. Can walk about wards on crutches and sit up in a chair without pain.

September 29th. Leg still somewhat weak and slightly everted. No tenderness over fracture. Walks well with crutches. Discharged, nearly well.

CASE V. *Hydrocele*. — Repeated simple tapping. Tapping with injection of iodine. Incision into the tunica vaginalis by Lister's method, with extensive sloughing of the scrotum.

The patient, William M., having been repeatedly tapped for hydrocele in the different public surgeries in town, came to the hospital for the radical cure of the same. This was done in the spring of 1877, the patient continuing as an outpatient, unsuccessfully. In midsummer he returned for treatment, and at the request of the visiting surgeon the house surgeon tapped the hydrocele, evac-

uated the fluid, and injected a four-ounce syringe of the tincture of iodine. The following day considerable tenderness and pain was present in the part, but no suppuration occurred, and the patient was discharged after remaining in the hospital two weeks.

Upon the 8th of August, some four weeks afterwards, the patient returned with a considerable collection of fluid, tired out with the many attempts at cure. Dr. Fifield made an incision into the tunica vaginalis, laying bare the testicle under the carbolic spray, and applied the carbolized gauze and protective mackintosh after Lister's directions.

August 9th. Scrotum red, painful, and much swollen. Temperature 103°; pulse 110. Tympanites, anorexia, vomiting, and extreme restlessness.

Omit Lister's dressing. Apply poultice. Give two grains of quinia every three hours, opium as the occasion requires, and brandy and beef tea, an ounce and a half of each every four hours. Turpentine stupes to abdomen.

August 10th. Scrotum looks badly. Edges of wound sloughy. Very offensive odor to discharge. Apply poultice saturated with liquor sodæ chlorinatæ every two hours.

August 12th. Tympanites diminished somewhat. Pulse 90; temperature 100°. Discharge from incision stopped. The whole of the right half of scrotum has sloughed.

August 15th. Slough is extending to both sides of scrotum, and is separating.

August 19th. Slough has extended to the root of the penis, and now involves all but the posterior aspect of the scrotum. Temperature 101°.

August 20th. Slough separated, and the testicles, which are bare, present healthy granulations. Temperature 99°. Testicles supported by broad plaster across thighs.

September 5th. Small abscess in perinæum opened by Dr. Fifield.

September 10th. Testicles granulating well; discharge moderate and healthy in character. Twelve grafts inserted and protected by a wire cage enveloping the testes, and secured in position by adhesive plaster.

September 13th. Five grafts took well. Fourteen more inserted to-day. Edges of wound cicatrizing fast.

September 18th. Eleven grafts in all have taken, and are spreading rapidly. The edges also filling in fast.

September 26th. Patient sits up every day. General condition good.

October 16th. The testicles are all healed in by cicatrization.

Patient discharged, well.

THE ABUSE OF MEDICAL CHARITIES.

MESSRS. EDITORS, — Permit me to make a few observations upon your editorial upon Out-Patients in the JOURNAL of the 1st inst.

I must insist that your statement that in the discussion of the subject of the abuse of medical charities "we have simply a quarrel between the old litigants, the 'outs' and the 'ins,'" is unwarranted and calculated to cast unmerited reproach upon the cause. While it is not to be supposed that you intend to dis-

credit the effort to bring about a reform, it is unfortunate that you adopted a line of argument usually resorted to to attain that end. I must personally disclaim all interest in the question of "outs" and "ins," and protest against the injustice of the imputation that this is "simply a quarrel" of any sort. One can but feel that you pay a poor compliment to those members of the profession and managers of medical journals who have devoted so much earnest attention to the matter.

You ask me "whether the want of moral sense is not manifested as clearly in begging from an individual as from an institution." Possibly begging may not betray any lack of moral sense whatever, but the attempt to *impose* upon an institution or an individual does, though the result in the two cases will be widely different. The unworthy applicant enters the dispensary confident in his ability to accomplish his ends, and soon retires complacently to swallow his share of the hundred and thirteen thousand recipes annually dispensed, while his visit to the individual is liable to end in the payment of a fee, and his draught, obtained at the apothecary's, is imbittered by the thought that he is obliged to pay for it. Morally the result may be much the same, though unsuccessful iniquity is the more demoralizing, but the result to the individual doctor is more satisfactory. We cannot prevent attempts to swindle, but we may perhaps render the efforts ineffectual. Isn't it our duty to try to do so?

You say that "if a man has no means to support himself for at least several years of practice he has no business to become a physician." It is true that under the present condition of affairs a man had better not become a physician, but you cannot urge that fact as a sufficient excuse for fostering the "immense amount of imposition" which you admit, and which inevitably tends to intensify the struggle for existence of a considerable portion of the profession. Looking at the matter in the light of the "lamp of experience," it may safely be said that it will be a sad day for medical science when the profession draws its recruits solely from the ranks of the wealthy. Take from the sum total of medical knowledge the contributions of those who entered the profession with nothing to depend upon save their brains and the habits of hard labor born of poverty, and the practice of medicine would partake more of the mediæval character than would be agreeable or beneficial to the patient. When a medical aristocracy founded upon wealth shall have been established in this country, a system of wholesale indiscriminating medical relief may be justifiable, but not till then. If the defense of the present system involves the necessity of drawing a money line in the admissions to the profession it may ultimately prove to be more creditable not to undertake its defense.

You deny that the younger men "suffer materially by the immense amount of imposition" upon medical charities. Experience and observation have brought me to exactly the opposite conclusion. I agree with you in the statement that "our profession is not a trade;" but it is an *occupation* by which men gain a livelihood, and I have yet to hear the first particle of evidence tending to show that it should not be conducted on strict business principles.

You quote with approval Mr. R. Davy's (not Dr. Pavy's, as you are made to say by an error of the types, probably) remark in an introductory lecture

that none should enter medicine "without a willingness to trust to another world for the reward of a vast amount of labor in this one." No doubt this statement was more impressive and appropriate when addressed to a body of students than it is when made to an audience composed of your readers. Recognizing every obligation to care for the needy and thereby "lay up their treasure above," they will insist, even at the risk of the charge of being infected with a "mercenary" or "trade" spirit, in demanding a reasonable portion of their reward here below, trusting for their vindication to the language of the greatest of all Teachers, uttered when He sent into the world his messengers on a mission higher than ours, "The laborer is worthy of his hire."

Very respectfully yours,

ORVILLE T. ROGERS.

DORCHESTER, November 9, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING NOVEMBER 3, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	447	21.58	27.46
Philadelphia	850,856	238	14.55	22.88
Brooklyn	527,830	195	19.21	24.31
Chicago	420,000	111	13.74	20.41
Boston	363,940	121	17.29	23.39
Providence	103,000	30	15.14	18.34
Worcester	52,977	25	24.54	22.00
Lowell	53,678	22	21.31	22.21
Cambridge	51,572	13	13.11	20.54
Fall River	50,372	17	17.55	22.04
Lawrence	37,626	15	20.73	23.32
Lynn	34,524	18	27.10	21.37
Springfield	32,976	10	15.77	19.69
Salem	26,739	5	9.72	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. McCollom will read a paper upon Delirium Tremens.

BOOKS AND PAMPHLETS RECEIVED. — On the Nature, Origin, and Prevention of Puerperal Fever. By W. T. Lusk, M. D., Professor of Obstetrics and Diseases of Children in Bellevue Hospital Medical College, New York. (Extracted from the Transactions of the International Medical Congress, Philadelphia, September, 1876.)

The Virus of Venereal Sores: Its Unity or Duality. By Freeman J. Bumstead, M. D., late Professor of Venereal Diseases in the College of Physicians and Surgeons, New York (Extracted from the Transactions of the International Medical Congress, Philadelphia, September, 1876.)

Physician's Case-Record Ledger. Cincinnati: Robert Clarke & Co. 1877.

Physician's Pocket Case, Record, and Prescription Blank Book. Cincinnati: Robert Clarke & Co. 1875.

The Columbia Hospital and Lying-in Asylum. (From the Richmond and Louisville Medical Journal.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, NOVEMBER 22, 1877. — NO. 21.

HYPOSPADIAS FEIGNING HERMAPHRODITISM.

BY W. H. LATHROP, M. D., TEWKSBURY, MASS.

THE person here described came to this country from England in July, 1877, and a few weeks after landing in Boston found his way, as an inmate, to the State Almshouse of Massachusetts at Tewksbury. He entered the institution in a woman's dress, and gave the name of Sarah Jane B. His age was thirty-two, height five feet four and a half inches, and weight one hundred and eighty and a half pounds. His employment was given as "weaver in a mill."

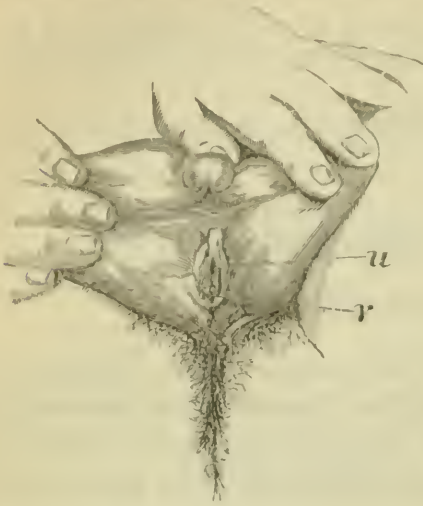
Suspicion was at once directed to the sex by the voice and general appearance. He also, almost immediately, requested that facilities for shaving the beard might be provided. He was perfectly willing that the genitals should be examined by the proper authorities.

The physical development was that of a man. The voice was evidently masculine, the beard abundant, and the breasts flat. The general appearance of the private parts was also masculine. It was readily noticed, however, that the testicles hung in separate bags, — two scrotums. These being drawn aside revealed the following features: A short penis, of which the prepuce was immediately continuous with the skin of the scrotum. The prepuce could never be



pulled forward so as to cover the glans and remain in that position. The anterior wall of the urethra was deficient, and hence the orifice of the urethra was at some distance (eight centimetres) from the end of the penis. Immediately below the orifice of the urethra (one centimetre), and four centimetres distant from the orifice of the rectum, was another opening, which is denominated a spurious vagina. This passage was large enough to admit a No. 12 catheter, and was six centimetres (two and a half inches) in length. When the catheter was introduced into

this passage it could be readily felt by a finger in the rectum. Water forcibly injected into this passage always returned the same way. The patient stated that no urine had ever passed through it, and no trouble



U indicates orifice of urethra.

V indicates orifice of spurious vagina.

had ever been experienced by its presence. No trace of any uterus could be detected. The testicles were large, one of them thirteen centimetres and the other fifteen centimetres in circumference. The anatomical construction appeared to be normal. All doubt with regard to the functional activity of the parts, however, as well as to the sex of the individual, was removed by the discovery of spermatozoa. He mentioned the fact that a secretion other than urine occasionally came away from the urethra, and on obtaining a specimen I found it to contain

the male germs. A specimen of these was exhibited by Dr. George H. Pillsbury to the Lowell Medical Journal Society, and the spermatozoa were pronounced by all the members present to be normal.

The general health of this person has always been good. His father died within the past year, and the mother eight years ago, but both of them were healthy most of their lives. He has had three brothers and three sisters, all healthy, and having no deformity. He knows of no family relative who has been deformed in this way. He states that when six years old the external genitals were examined by the family physician, and that the parents were advised to dress the child in girl's clothes. Subsequently other examinations were made with a similar result, but it would appear that all were made before puberty. Before this age, the testicles not having descended and the glans penis being smaller, the resemblance of the external genital organs to those of the female may have been very marked.

This case has been carefully examined by the physicians and surgeons of the Massachusetts General Hospital and many others. A cast of the parts has been taken in plaster of Paris by Dr. M. G. Parker, of Lowell, and placed in the museum of the Harvard Medical School.

"Sarah" alleged that his malformation prevented him from earning a livelihood in this country, while he could get along very comfortably in his native village, where he was well known. He was accordingly sent to England by the Board of State Charities.

With regard to the personal character of this individual my means of information were very limited. I was led to believe, however, that lasciviousness existed to a very marked degree, so much so indeed as to

suggest the inquiry whether ungratified lust may not have produced a certain mental obliquity.

It will not be out of place in this connection to call attention to the fact that very similar cases to this are described in the exhaustive treatise on Hermaphroditism contributed by Professor Simpson to the Cyclopædia of Anatomy and Physiology, and I doubt not that it will be of interest to reproduce here his "classification of hermaphroditic malformations."

Hermaphroditism.	Spurious.	In the female.	{ From excessive development of the clitoris, etc. From prolapsus of the uterus.
		In the male.	{ From extroversion of the urinary bladder. From adhesion of the penis to the scrotum. From hypospadiæ fissure of the urethra, etc.
	True.	Lateral.	{ Testis on the right and ovary on the left side. Testis on the left and ovary on the right side.
		Transverse.	{ External sexual organs female, internal male. External sexual organs male, internal female.
		Vertical or double.	{ Ovaries and an imperfect uterus, with male vesiculæ seminales and rudiments of vasa deferentia. Testicles, vasa deferentia, and vesiculæ seminales, with an imperfect female uterus and its appendages. Ovaries and testicles coexisting on one or both sides, etc.

Unquestionably, then, this is a case of "spurious hermaphroditism in the male, from hypospadiæ fissure of the urethra," and I think that I am justified also in regarding the blind passage between the urethra and rectum as a rudimentary vagina, indicating an arrest of development of the male *external* genitals and a commencement of the formation of those of the female.

A CASE OF VAGINAL LITHOTOMY.¹

BY ALFRED HOSMER, M. D. HARV., WATERTOWN.

THERE is nothing in the nature of the disease of the patient whose case is herewith presented which entitles my communication to the attention of this society. For calculus of the urinary bladder is not an affection peculiar to women; on the contrary, according to the figures given by Dr. Alfred McClintock, in an article to which reference may be made hereafter, there is on the part of the male sex a liability to be affected with stone, the relative excess of which may be represented by the ratio of eighteen to one. But my paper may claim a consideration at this time for the simple reason that the treatment of the affection in question by the operation of vaginal lithotomy is applicable only to the female.

The specimen² which I now exhibit was removed from an octogenarian in August last, and may be described as follows: In shape it is a flattened ellipsoid; in color, dirty white or gray. Its surface is coarsely

¹ Read at the meeting of the Obstetrical Society of Boston, December 9, 1876.

² No. 4821 in the Warren Museum.

crystalline, with varying degrees of roughness and some marked depressions. Its three diameters are, in inches, respectively, 1.9, 1.3, and 1.14; in millimetres, 48, 33, and 29.

Its weight immediately after removal was 520 grains, or 33.696 grammes. Five days later it weighed but 396.84 grains, or 25.715 grammes, losing in that period of time 123.16 grains, or 7.98 grammes, that is, 23.6 per cent. of its original weight.

Upon its external surface it is decidedly friable in its texture. Its appearance upon section presents a reddish-brown, compact nucleus, not small; a middle layer something more than an eighth of an inch in thickness, of a light yellowish-brown hue, with some mottling, and a dense, firm look; and an external layer showing the same color as the exterior of the stone, and with a certain open, loose structure which, under a low magnifying power, acquires a look that is well described by the word coralline. The report of Professor E. S. Wood is as follows:—

“The calculus which you sent me consists of three quite well-defined layers: the nucleus consists of uric acid and urates; the central layer contains chiefly the carbonate and phosphate of calcium; the outer layer consists chiefly of the urate of ammonium and carbonate of calcium, with a little phosphate and oxalate of calcium.”

Thus there is nothing very unusual in the composition of the stone, and in the nature of its nucleus it follows the rule of the majority of calculi.

Hoping to give a better interest to the subjoined clinical report, I have inverted the common order of statement, and given precedence to a description of that which was the essential fact in the case, although the last, chronologically, to become the subject of direct observation.

Mrs. —, a widow, aged eighty. Mother of five children. Now leading a quiet life without particular occupation, and with nothing of especial importance connected with her habits, excepting, perhaps, the inordinate use of condiments. She was born in Charlestown, and has never been long absent from the neighborhood of Boston. She took up her residence in an adjoining town in May, 1874. For several years she has been subject to diarrhœa, especially in the summer months, and during a much longer period an habitual irritability of the bladder, compelling frequent evacuation, has constantly attracted the attention of the female portion of the household. Rheumatic pain is also an old acquaintance. In earlier life she had several illnesses; “different forms of fever,” as she states the case. About three years since she began to suffer from prolapsus uteri, the displacement of the organ eventually attaining an extreme degree. This trouble continued for two years, with occasional rather profuse hæmorrhages during the first twelve

months. For a considerable time there has been much relief in respect of the uterine symptoms, but for two years pruritus of the vulva has been a constant source of excessive annoyance.

In her family history there is nothing that throws any light of explanation upon her present condition, which in its origin we can only trace back to the immeasurable region of the unknown, out of which are constantly emanating morbid processes so great in number and variety.

In the autumn of 1875 the old irritability of the bladder began to increase, and the organ became more intolerant than ever. The urination, in its greater frequency, was also attended and followed by pain, the severity and sharpness of which were steadily augmented. The urine, at first slightly changed to the eye, by degrees acquired the character soon to be described. The general condition, yielding to the depressing and exhausting influence of serious disease, soon became the seat of a slow process of deterioration. Matters had not advanced very far in this direction when aid and comfort were sought at the hands of medical women. Their attendance, failing to give any satisfaction, was not of long duration. What diagnostic idea determined the plan and purpose of their treatment I know not. Their methods caused extreme pain, and, what was worse, excited in the mind of the patient a state of apprehension and terror, and a dread of any instrumental interference that rendered it absolutely impossible to make a proper and thorough examination of the case when it first came under my observation, on June 12, 1876. I then found a woman, somewhat bent and a little below the medium stature; formerly stout, but now considerably emaciated; with a pale, cachectic look, and an expression of countenance significant of long suffering. In brief, she presented all the symptoms and discomforts of an intense chronic cystitis. The urine, horribly fœtid, was converted into a semi-solid mass by the large proportion of mucus, pus, and blood which it contained. The bladder was the seat of constant pain, and the frequency of irresistible urination destroyed all chance of rest both by night and day. A violent pruritus, which affected the vulva and vagina, was the source of unceasing torment. The mental condition was one of marked depression.

The suggestion, made at once, that a calculus might be at the bottom of all the trouble was met by the declaration of the former attendants, who asserted most positively that there was no stone in the bladder. This statement produced a conviction the force of which was not at once to be impaired by any suspicions or opinions of mine; and the acquired timidity of the patient forced me for the time being to leave the question an open one. The indication for tonics and astringents was faithfully followed, but, for a very substantial reason, without benefit. Although the patient was at last frequently compelled to lie in the prone position in order to pass urine, yet the flow once com-

menced was never suddenly arrested. Incontinence was noticed in a very slight degree only, and that mostly when the call to pass urine came in bed; then the excretion sometimes escaped in small quantities before intended arrangements could be completed. There often ran from the vagina a copious, watery discharge, without urinous odor, and sometimes fresh blood, independent of any other evacuation.

I repeatedly urged the necessity of injecting and washing out the bladder as the only probable means of arresting the morbid process and giving a chance of recovery. More than once did the patient consent to have this done, only, through the failure of her courage at the critical moment, to postpone the operation until she should feel a little better. August 9th I managed to save her from another breach of promise. A double catheter was introduced just within the cavity of the bladder as gently and carefully as possible, and an injection made of a weak solution of carbolic acid. The result was some improvement in the quality of the urine and permission to repeat the use of the apparatus, which was done August 15th. I then, with the idea of thorough exploration, pushed the instrument as far as possible into the bladder and discovered the calculus, which was supposed to be a large one, because its contact with the beak of the catheter produced such a sense of solid resistance.

Vaginal lithotomy, to be done immediately, was advised, and the advice was accepted. But there were two unfortunate elements in the case: an extreme sensibility of the mucous membrane of the genito-urinary passages, most marked at the orifice of the urethra, which was swollen and red; and a state of mind which produced the greatest aversion to confinement in bed, and an obstinate reluctance to submit to professional discipline. For up to this time the patient, although steadily failing, had every day worn her usual clothing and occupied her accustomed places in the house.

August 23, 1876, the operation was done with the assistance of Drs. Huckins, Nichols, and Driver, the latter taking exclusive charge of the etherization. With the patient in the ordinary position, and the diagnosis verified, a uterine sound, with its concavity towards the vagina, was passed through the urethra into the bladder, and its extremity was used as a guide by which, with a knife, to make an opening into the cavity of that viscus just behind its neck. Starting from this puncture, an incision one inch long was made with the scissors backwards on the median line of the vesico-vaginal septum, the fleshy thickness and vascularity of which were very striking. The free hæmorrhage suggested the division of a vessel of considerable size, but the blood was found not to come from any single point.

An examination of the stone, now made with finger, showing the insufficiency of the opening already described, the incision was prolonged

until it was by estimate one inch and a half long, and thus gave a circumference of three inches. The calculus was seized with the utmost ease by a pair of lithotomy forceps with broad blades, and was thus removed very slowly from the bladder. The process of extraction subjected the whole edge of the artificial aperture to a good deal of visible tension and stretching. A measurement taken afterwards showed the circumference of the forceps blades, with the calculus included, to be four and one quarter inches. The instrument covered the mass so well that it was scarcely possible for the rough surface of the stone to do any injury to the lips of the wound by bruising or laceration. Nine carbonized catgut sutures distributed equally along the length of the wound and firmly tied rendered the bladder water-tight.¹ One curious fact is worth noting, namely, a decided acceleration of the pulse, which in its duration was simultaneous with the extraction of the stone. The stretching of the tissues connected with that step in the operation produced a slight shock or made some kind of an impression to which the system responded in this unmistakable manner.

A soft-rubber catheter was introduced, and the patient was placed in a natural position in bed, in a very satisfactory condition.

The amount of constitutional disturbance that ensued may be inferred from the following figures. On the evenings of the first, third, and seventh days the temperature was respectively 100.4°, 99.8°, and 100°. With these exceptions the thermometer never rose above 99°. The pulse attained its maximum of frequency, 96, on the evening of the second day. On the evening of the fifth day it had fallen to 72, where it remained permanently, with the exception of a rise to 84 on the evening of the seventh day. For some unknown reason the respiration was accelerated to 30, and sometimes more, per minute for several days. It is not worth while to enumerate all the details of a favorable convalescence, but I will allude chiefly to those facts which have an interest from their connection with the operation which had been performed. The slight nausea and vomiting that followed the ether had disappeared in forty-eight hours, and from that time the appetite, always quickened and improved by the use of the muriated tincture of iron, was well maintained. The muscular strength was not essentially impaired. On the evening of the third day the patient moved across the bed without assistance, and expressed a very strong wish to get up into a chair, which she was able and was allowed to do two days afterwards. On the fifty-seventh day, after having been dressed for several mornings, she went downstairs for the first time, and with no inconvenience. A temporary relief from long-standing pain and discomfort immediately followed the operation. On the third day the pain in the bladder and the pruritus vulvæ were entirely gone, although the former returned in a slight degree on

¹ The sutures were never again seen.

the fourth day. The sixth day followed the best night for three years. But the first week terminated with pretty frequent, sharp, short twinges of pain in the bladder. During the second week there was occasionally severe pain in the bladder, with, on one day, decided throbbing and a good deal of soreness. The pruritus returned with all its old fierceness, and again destroyed every chance of rest by day or sleep by night. It continued until about the beginning of the sixth week, when it began to abate, at first very gradually and then quite rapidly, and disappeared not to return up to the present time.

My plan of treatment intended to remove the soft catheter every twelve hours, and to replace it with another one known to be clean and pervious. But the fifth day brought loud complaints of the annoyance produced by the instrument, so that its constant use was suffered to be dispensed with, and the nurse, a handy and intelligent woman, was directed to introduce it at intervals not exceeding two hours in length. This new arrangement, not proving to be any more agreeable and comfortable than the previous one, at the evening visit the patient was directed to urinate in the ordinary manner once in from one to two hours, which she continued to do for two days, when it was evident that more or less urine was escaping into the vagina through the artificial opening.

The extreme sensibility of the parts rendered frequent examinations difficult and unwise, and the unavoidable resistance which it induced on the part of the patient prevented them from being as careful and complete as could be desired. On the fourth day the redness and swelling had entirely disappeared from the orifice of the urethra. On the eighth day the vagina was slightly red. The site of the wound was occupied and covered by a mass of yellowish-white material, one fourth of an inch wide, presenting ragged, irregular edges, and looking as though it could be easily detached. Urine was seen to collect quite rapidly in the vagina. On the thirteenth day this canal was more natural in color. The deposit on the wound had increased somewhat in extent, seemed to be more firmly attached, and was closely surrounded by a bright red elevated edge of swollen mucous membrane.

From this time I did not see the patient again until the forty-eighth day. During my absence she had two severe ill turns, both of short duration,—one of them marked by catarrhal symptoms, and the other by stupor.

Upon my return I found the patient in condition to walk about the room, and able, when sitting up, to retain urine and keep dry for two hours, but certain to suffer from incontinence when lying down. The site of the wound presented a firm, healthy-looking cicatrix, without any fistulous opening that could be discovered, although it was believed that one existed high up in the vagina.

The quality of the urine was in strong contrast with its former appearance. It was slightly turbid, with the least degree of fœtor, and showed a small deposit of uric acid. No pus, blood, or mucus could be recognized by the eye. At the end of the fourth week from the operation it had acquired an acid reaction.

October 28th, on the sixty-seventh day, I satisfied myself that the wound in the vesico-vaginal septum was completely closed.

November 24, 1876, finds the patient in very good general condition, somewhat prone to imprudence, and taking the freedom of the house. She sometimes passes three hours in the day without relieving the bladder. By night urination occurs at shorter intervals, and interrupts the continued sleep that she would otherwise have. At this date the urine has an acid reaction, a density of 1013; shows a trace of albumen, and some pus corpuscles under the microscope. Quite an abundant deposit of uric acid occasionally appears.

To the operation of vaginal lithotomy Dr. J. Collins Warren, in his recent paper, has given an impulse and an interest for which I gladly acknowledge my individual obligations. His contribution attracted me with unusual force, and furnished fresh and definite information upon a subject to which no occasion had ever before directed my serious thought. As he says, the operation presents no intrinsic difficulties. To be sure, the facility with which its successive steps are accomplished must depend upon the dexterity of the surgeon, but no one with the least self-reliance or the slightest appreciation of the simplest surgical procedure need hesitate to attempt it. As to the method, while it seems to me that I should never practice anything but the longitudinal incision, Dr. McClintock suggests some advantages that might accrue from a transverse cut. "In the first place such a wound is more easily sutured; secondly, it is more likely to unite, in consequence of its being parallel with the muscular fibres of the vagina; and thirdly, it is less likely to burst or give way under distention of the vaginal canal."

For the management of the wound after the extraction of the stone two plans are proposed: the one, adopting the practice which is followed in the analogous operation on the male, leaves the wound to take care of itself, — either to unite by adhesion through some fortunate apposition of its free edges, or to be closed partially or completely by the slower process of granulation; the other plan directs the use of sutures, metallic by preference, to be applied at once with the idea of obtaining union by first intention. I adopted the latter for the reason that the only objection urged against this operation is the possibility of establishing a vesico-vaginal fistula.¹ It seems to me that the use of sutures is

¹ Compare this with the difficulty which is so often found in maintaining a free outlet for the contents of the bladder in those cases in which chronic cystitis is treated by incision through the vesico-vaginal septum.

the only means — and a tolerably sure one, too — of averting that misfortune, the existence of which, substituting a most repulsive infirmity for the previous disease, makes a fearful discount from the immediate and complete success of the operation. The only advantage of leaving the wound open is the application of the principle of drainage to the treatment of what may be called, without much violence to the proper use of terms, a suppurating cavity. But the cystitis in the case under consideration is consecutive and not idiopathic; and the extent and degree of it depend partly upon the duration of the disease, and largely upon the proportion in which are united the two elements of irritation, the weight of the calculus and the quality of its external surface, assuming, of course, the perfect mobility of the stone in the bladder. Hence it is not unfair to suppose that the inflammatory process which has been excited and maintained by a foreign body will begin to abate and its products to disappear as soon as the cause is removed. The course of events in my own case certainly justifies that expectation. It is the common result of the removal of foreign matters from other portions of the system. The safety of vaginal lithotomy is so nearly absolute as, when combined with the consideration of its simplicity, to exclude it from the rank of capital operations. The danger it involves is not to life, but, in view of the possibility of leaving a fistula, to the integrity of structure and function in the bladder. Yet so good are the chances of repairing and relieving this condition that the risks of this operation may be put down as nothing when compared with the hopeless, irremediable incontinence which may result from the dilatation of the urethra sufficient to allow the extraction of even a calculus of moderate size through that canal.

In conclusion, when I consider the extreme age and deteriorated condition of my patient, the state of the parts in which the operation was done, well described by one gentleman, who declared that I had nothing to deal with but “a rotten old bladder,” the perhaps unwise stretching to which the tissues were subjected in the process of extracting the stone, and, finally, the complete though somewhat tardy closure of the wound, I think I can safely say that no surgical treatment, so simple in its nature and applicable to disease so important and so serious, carries in itself the promise of more satisfactory results than vaginal lithotomy.

Fifteen months after the operation the patient finds herself in excellent general condition. On account, as is supposed, of its persistent thickening and contraction, the bladder has never been restored to a normal state. Urination becomes a necessity once in two hours or less, and its frequency is quite as annoying and urgent by night as by day.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY R. H. FITZ, M. D.

PATHOLOGICAL ANATOMY.

Amyloid Degeneration of the Heart and Endocardium. — A second communication with reference to this subject is presented by Heschl.² He states that the heart has been especially examined for the presence of amyloid material whenever the abdominal organs gave evidence of its presence. It was found that in about one third of these cases the heart was also affected. Although the gross appearances of the muscle and its simple microscopical examination gave no positive result, the latter was very distinctly obtained when aniline-violet was added. The degeneration was limited to the intermuscular substance, occurring in patches, and the endocardium was also degenerated in spots. In both instances the change seemed to be in the fibrous tissue itself.

Peripleuritis. — This term is applied to a suppurative inflammation of the fibrous tissue beneath the costal pleura, which arises independently of traumatic causes or of a preceding pleurisy.

Wunderlich first called attention to the affection, and cases were subsequently published by Billroth and Bartels.³ Recently the subject has again been brought forward by Riegel,⁴ who adds another to the series of cases.

The last writer states that the ætiology is still negative. The disease begins with chills followed by fever, the temperature throughout being elevated, but without any constant range. There are no characteristic physical signs when the quantity of pus present is insufficient to produce a bulging or a modification of resonance on percussion. The subpleural abscess shows but slight tendency to open into the pleural cavity. This result was prevented in most cases by pleural adhesions, but in certain cases there was no such evacuation, although adhesions were absent.

The symptoms vary according to the extent, severity, and seat of the process. The disease is most likely to be confounded with empyema. The following considerations favor the diagnosis of the peripleuritic abscess: a decided widening of an intercostal space, associated with a narrowing of those above, and fluctuation at the bulging part. The line of dullness is irregular and not affected by a change of position, and aerated tissue is present below this line. There is little or no displacement of the neighboring organs. The affected

¹ Concluded from page 559.

² Wiener medicinische Wochenschrift, 1877, xxvi., 625.

³ Referred to by Dr. F. I. Knight in the JOURNAL, October 14, 1875, p. 437.

⁴ Deutsches Archiv für klinische Medicin, 1877, xix., 551.

intercostal spaces are relaxed during inspiration and tense during expiration. The pus has a specific gravity of 1041, while that in cases of empyema is from 1028 to 1032. Diffuse inflammation of the kidney has been observed as a complication of this affection.

The prognosis is unfavorable, five of the nine cases previously reported having died, while only two completely recovered.

Abscess of the Lungs. — At a meeting of the Berlin Medical Society Leyden¹ calls attention to the rarity of this condition, and to the liability of its being confounded with pulmonary gangrene and subacute tuberculosis of the lungs (cheesy pneumonia). Traube has referred to the diagnostic importance of an examination of the sputum, and states that in it shreds of lung tissue might be recognized with the naked eye, and that elastic fibres, black pigment, and occasional rust-colored crystals could be found. In gangrene, however, the shreds of pulmonary tissue are readily crushed, and elastic tissue is not present. In pulmonary tuberculosis there are no shreds to be seen. It was Traube's view that the abscess developed from a pneumonia, and was preceded by an extensive destruction of tissue. Leyden admits that the pulmonary abscess and gangrene are not sharply defined, but run into each other, and yet the recognition of the simple, bland suppuration is of the greatest importance. The clinical course of the abscess resembles rather that of subacute cheesy pneumonia than that of gangrene. He considers that there are three varieties of pulmonary abscess: —

(1.) The abscess perforating the air passage from without.

(2.) The true pulmonary abscess, which includes those due to pneumonia, the embolic and metastatic forms, and those resulting from injury to the lung, as in the penetration of foreign bodies.

(3.) The chronic pulmonary abscess, such as forms in chronic pneumonia, but distinct from the tuberculous cavity.

The true pulmonary abscess begins with symptoms of an acute pneumonia, which does not terminate critically on the seventh or ninth day, but the fever increases, the expectoration is retained, till in the course of three weeks an abundant purulent sputum appears, with alleviation of all the symptoms. This sputum is of the greatest diagnostic importance. It is very profuse, foamy, purulent, and liquid, of a stale, indifferent odor, although the latter may temporarily be sweet and penetrating. Shreds of lung tissue are evident to the naked eye, as well as others to be seen only with the microscope. They are imbedded in thick yellow pus, are of a grayish-black or yellow-ochre color, and vary extremely in size. These particles contain abundant elastic tissue, at times bits of large vessels, a moderate quantity of black pigment,

¹ Berliner klinische Wochenschrift, 1877, xvi., 218. Volkmann's Sammlung klinischer Vorträge, Nos. 114, 115.

crystals of fat (small, pedicellate, globular forms), delicate hæmatoidine (bilirubine) crystals of an ochre-yellow or rust color. The latter crystals were always observed, though they might be few or many, and were in the form of rhombic plates or of bundles of needles. Coarse, granular micrococci are present, either motionless or moving slowly, and differ widely from the active, rod-like bacteria of pulmonary gangrene. They are not acted upon by iodine, and thus differ from the leptothrix forms in gangrene. Pus-corpuscles and pulmonary epithelium are also found.

In the chronic pulmonary abscess the sputa are purulent or mucopurulent in character. They contain elastic fibres, which are evident on microscopical examination; also occasional, small, dense, slate-colored portions of lung tissue of a fibrous appearance. Plates of cholesteroline also are often seen; likewise fatty and mucous corpuscles, the latter often containing granules of fat.

Kidney in Scarlatina. — Dr. Klein¹ read a paper before the Pathological Society of London, giving the results of his microscopical examination of the kidney, liver, spleen, and lymphatic glands from cases of scarlet fever. The changes observed in the kidneys during the first week of the disease were as follows: an increase of the nuclei of the Malpighian bodies, hyaline degeneration of the inner coat of the minute arteries and of certain portions of the Malpighian bodies, multiplication of the nuclei of the muscular coat of the small arteries, and, finally, the swelling, nuclear increase, and granular condition of the epithelial lining of the tubules.

The changes taking place after the first week are described as a cellular infiltration around the tubules, and the results of a parenchymatous nephritis.

The alterations met with in this affection are therefore both parenchymatous and interstitial, the latter being constantly found, although regarded by certain authors as of rare occurrence.

The hyaline change is the same as that described by Gull and Sutton, and has also been seen by Klein in cases of typhoid fever.

The alterations found in the examination of the other organs above mentioned resembled those in the kidney.

One of the patients whose organs were examined was an adult who died of pneumonia forty-four days after the attack of scarlatina. The renal changes, both parenchymatous and interstitial, were slight, and it was inferred that recovery from the interstitial affection was taking place.

Fatty Degeneration of the Renal Epithelium. — The experiments of Zielonko, showing that constriction of the aorta occasionally produced a fatty degeneration of the kidney, suggested to Von Platen² a more

¹ Medical Times and Gazette, 1877, i., 487.

² Virchow's Archiv, 1877, lxxi., 31.

direct method of bringing about a like result. He endeavored to ascertain the effect upon the kidney following a constriction of the renal artery by means of a ligature.

The immediate effect was a permanent diminution of the arterial supply and a lowering of the arterial tension, in consequence of which the nutrition of the epithelial cells of the kidney became impaired, and fatty degeneration resulted. If the artery was completely obstructed necrosis followed, and no fat was found in the affected kidney. Simple atrophy of the kidney, which also indicates a disturbance of nutrition, may likewise be produced artificially by ligation of the ureter. The resulting atrophy is to be attributed rather to the anæmia induced than to the mere pressure of stagnant urine.

In all these experiments the common factor leading to retrograde changes in the structure of the kidney is anæmia. When the nutrition is rapidly enfeebled fatty degeneration of the renal epithelium quickly takes place.

Chronic Interstitial Nephritis. — A series of anatomical and experimental investigations concerning the disturbances of the circulation in the kidneys in chronic interstitial nephritis has been made by Thoma.¹

He states that this affection is essentially the result of growth of fibrous tissue, which begins in the immediate vicinity of the interlobular arteries and veins, especially in those near the surface. This process eventually becomes widely extended, and produces, through shriveling, a simple atrophy of the epithelial cells and a decided diminution in the size of the organ. The capillaries are diminished in number, numerous Malpighian corpuscles are destroyed, and the afferent arteries are brought directly into continuity with the efferent vessels or with the veins. The walls of the blood-vessels become exceedingly permeable, granules of cinnabar even passing through the unruptured vessel and entering the fibrous tissue. Structural alterations in the vessel walls were also found, to be classified as a chronic fibrous endarteritis or mesarteritis. He does not consider it possible to determine that these alterations of the arteries are primary and a cause of the secondary changes until the analogous processes in other organs have been thoroughly examined. At present neither the chronic endarteritis (the hyaline-fibroid degeneration of Gull and Sutton), nor the increased permeability of the vessel wall, nor the growth of the connective tissue can be regarded as the primary cause of the disease.

The destruction of the capillaries and the greater permeability of the walls of the vessels produce a decided slowing of the arterial current, and an increased blood tension in the branches of the renal artery. A sufficient explanation of the albuminuria is thus afforded. The other characteristics of the urine in chronic interstitial nephritis may be ex-

¹ Virchow's Archiv, 1877, lxxi., 42 and 227.

plained by an abnormally rapid capillary current in consequence of the increased arterial tension.

Cysts of the Vagina. — Von Preuschen¹ calls attention to the difference of opinion concerning the method of origin of vaginal cysts, and states that his examination of several specimens shows that they are retention cysts of the vaginal glands. This opinion had been previously suggested by Virchow. The anatomists, however, do not agree as to the presence of glands in the vagina, and some of them have suggested the canals of Gärtner as the probable place of origin.

Cryptic glands were found in the vagina, and possessed a structure analogous to that of the sebaceous glands of the vulva. Several pouches unite in opening upon the surface by a common terminal duct, and cysts may form in either part of the gland. If in the duct the epithelial wall is stratified and composed of pavement cells. The pouches, which are lined with ciliated epithelium, are much more frequently dilated, thus giving rise to cysts. When several adjoining pouches are simultaneously dilated the intervening walls become atrophied and disappear, and larger cysts are thus formed. The statement concerning the rarity of these cysts was not borne out by the present series of observations, and numerous cysts were present in several cases. They were not limited to particular portions of the vagina, although perhaps rather more frequently met with in the upper third and in the posterior wall of this canal.

It is further considered as possible that cysts might arise from obstruction of and retention of secretion in Gärtner's canals, although there is no evidence of the persistence of these foetal organs in the human species. Furthermore, the cysts which are seated in the upper part of the vagina cannot thus arise from the mere fact of their position.



PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

DECEMBER 9, 1876. *Vaginal Lithotomy.* — DR. HOSMER read a case of vaginal lithotomy.² In answer to questions, Dr. Hosmer stated that he had used carbolized catgut ligatures so as not to be obliged to remove them; they were not removed. Dr. Hosmer said that he had been much impressed in his medical pupillage with the apparent difficulty of passing sutures for the purpose of closing and uniting the wounds incident to the operations for cleft palate and vesico-vaginal fistula. To obviate the supposed difficulties a needle with an opening eye was used and often exhibited by Dr. J. Mason Warren. It was not his invention, as Dr. Hosmer had long taken it to be. Dr. Warren

¹ Virchow's Archiv, 1877, lxx., 111.

² See page 579 of the present number.

accredits it to another, in the Transactions of the American Medical Association, vol. xvi., page 375. The instrument Dr. Hosmer had never used. It seemed to him to involve an unnecessary complication of what may be accomplished by a very simple process. He found no difficulty in introducing sutures high up in the vagina.

DR. ABBOT asked Dr. Hosmer what he considered the comparative merits of lithotrixy in cases similar to that just reported.

DR. HOSMER replied that the bladder was in a bad state, the walls were thickened, the urine showed an unhealthy condition, there was a large body of stone, one session of operation would not be enough, the temperament of the woman was such as to make her dread excessively operative interference, instruments, and ether; that he considered these serious objections to lithotrixy. Dr. Hosmer referred to a case cited by Dr. J. Collins Warren,¹ in which although the operation of lithotrixy entirely removed the stone, yet the repeated sittings induced a degree of exhaustion which was fatal to the patient very soon after the operation, simply as a remedy for the disease, became a complete success.

DR. WELLINGTON asked Dr. Hosmer if he would not again apply ligatures in case the union were imperfect as a result of the operation.

DR. HOSMER replied that the only objection urged against letting it alone is the possibility of having a permanent vesico-vaginal fistula. As it was, in the case reported, he did not get union by first intention, but at the time of reporting the case the union was complete. Of this fact he first assured himself on the sixty-seventh day from the operation. Dr. Hosmer said that he washed out the bladder with a view to the relief of its unhealthy condition.

DR. CHADWICK said that perhaps it was fortunate that the sutures had not produced union by first intention. Dr. Emmet had shown that cases of severe chronic cystitis healed much more readily when the urine had a free escape through a vesico-vaginal fistula. He had effected cures in many cases by establishing such channels for the drainage of the bladder when all other means of treatment had failed. If this disease is allowed to exist for a long period there is danger that the inflammation will extend to the ureters and kidneys. Dr. Chadwick remarked that in Emmet's cases difficulty was often experienced in keeping the fistulæ open. For this purpose Emmet sometimes used a glass eyelet.

DR. HOSMER replied that he thought it fair to make a distinction between the two classes of cases, — idiopathic and consecutive. If a calculus lies in a bladder previously healthy, the symptoms become more and more severe till the calculus is removed. There is a tendency to recovery in that case which would not have been in a case of idiopathic cystitis of long standing.

DR. CHADWICK said that while admitting the weight of the objection, he should consider the condition of the bladder to be quite similar in the two classes of cases.

DR. ABBOT suggested that the fistula in Emmet's cases is designed to keep the bladder empty. In these there would be a free discharge by way of the

¹ See Communications of the Massachusetts Medical Society, 1876, page 99, lines 27 and 28.

vagina, while in Dr. Hosmer's case there was only a slight leak, which could hardly have had any influence on the result of the case.

DR. CHADWICK stated that the bladder would not empty through the urethra until somewhat filled, when it would be incited to contract. Emmet seeks to prevent all contraction of the bladder by keeping it entirely empty.

DR. HOSMER, in answer to a question by Dr. Abbot, said that the bladder emptied itself chiefly through the urethra, the patient carrying her water for two hours in the day, the leakage occurring principally in the night.

This answer applies to the period which intervened between the time at which the patient first sat up and the date at which the closure of the wound became perfect and complete.

DR. LYMAN remarked that one cannot judge by Emmet, who is so skillful and has such trained assistants, and described the operations which he saw performed by Emmet upon a patient who had rupture of the perinæum, vesico-vaginal fistula, and eversion of the neck of the womb.

Labor with Twins ; Arm Presentation ; Locked Heads ; Inability to deliver the Presenting Child by turning until the Upper Child had been turned and delivered ; both living. — DR. ARNOLD read the case.

Mrs. S., aged thirty-eight, German, a large, somewhat fleshy woman, in her fifth pregnancy. When called (February 16, 1868, about six o'clock A. M.) she had been in labor several hours, attended by a midwife. According to her account the pains during the last two or three hours had "slackened off," and were more and more irregular; the previous three or four hours the pains had come "strong and fast." Examination discovered a left hand at the vulva, an arm in the vagina, a head high up, a roomy pelvis, and an os fully dilated. The exact relation of things I could not, at least I did not, make out at this stage of the labor. The parts were soft, moist, and yielding, the arm and hand not swollen, as is usual on such occasions; pains were irregular, both as to frequency and strength. Sometimes there was a prodigious one which seemed to hurt her a good deal, but for the most part they were "growling pains," and entirely ineffectual. Pulse somewhat accelerated and firm. Skin warm and moist. She evidently had been perspiring freely. Temperature normal. The size and irregular contour of the abdomen first gave the suspicion of twin pregnancy. As turning was the thing to accomplish, I at once gave her ether. The head belonging to the arm in the vagina seemed to be held in a cul-de-sac above the left ramus of the pubes. Diagonally opposite or nearly so, perhaps a little to the front, was another head also seeking exit; the locking was effectual, and neither child advanced. The head of child No. 1 would not be displaced as usual, nor could any manipulation of mine induce it to take its proper position, nor would the hand and arm stay up when replaced nor keep out of the way. In the manœuvring, the membranes of child No. 2 were broken. Until this time they remained intact, but contained little fluid. It became plainly evident, as soon as my hand passed into the uterine cavity, that child No. 2 was the only one I could turn; from the very nature of things it was the one to turn. It was with great effort and a long arm that I secured only one of the nether extremities of child No. 2, but once having got hold of

them, or rather it, the turning was accomplished with less difficulty than I had anticipated; in fact it rolled over quite easily.

I thought that having changed the position of the children, No. 1 might possibly come forward and redeem itself, for I had some misgivings as to being able to get the head of No. 2 to pass the strait, but with its usual obstinacy it declined. No. 2 was then made to follow along as rapidly as practicable, which it did well enough until it came to the head and shoulders. The arms were brought down with much difficulty, as they were so high up, and after severe traction with my finger in the mouth the head of a living child was delivered. Turning of the other was accomplished without trouble, and the child was born alive. No. 1 weighed seven and one fourth pounds, No. 2 six and three quarters pounds, both male. The hæmorrhage was considerable, but was easily controlled, and mother and children did perfectly well.

Placenta Prævia; Twins; Labor at Seven and a Half Months. — DR. ARNOLD reported the case. The placenta was detached and allowed to come down into the vagina. There was some difficulty in turning, as in the previous case. Both children presented heads, and the one whose head was highest was the first to be delivered. The only delay in this case was that the uterus was unable to expel its contents.

Vital Statistics for 1875 in the State of Massachusetts. — DR. DRAPER said that in an analysis of the vital statistics of Massachusetts for the year 1875 he had determined certain interesting conclusions concerning mortality in its relation to sex and age. It was generally believed that the decade of life between forty and fifty, covering the period of the menopause in women, was particularly critical to the female sex, and that fatal diseases were apt to develop at that time. The statistics of 1875 did not confirm that impression, so far as Massachusetts was concerned. The death-rate of women between forty and fifty years old was 12.4 per 1000 of the living; that of men at the same ages was 13.5 per 1000. The death-rate of males at all ages was 21.8, and that of females at all ages was 20.5 per 1000 living. The general death-rate, at all ages and for both sexes, was 21.2.

Another interesting matter was found in the mortality from the accidents and complications of childbed. In 1875 there were registered two hundred and sixty-nine deaths in childbirth, nineteen deaths from puerperal convulsions, and ninety-nine deaths from puerperal fever, an aggregate of three hundred and eighty-seven. In 1874 the mortality from these causes was precisely the same in total, but distributed a little differently. These three hundred and eighty-seven deaths were 0.85 per cent. of all the registered births in 1875, and 0.82 per cent. in 1874. In 1875 there were one hundred and seventeen children born to one fatal accident of childbed; in 1874 the number was one hundred and twenty-two.

These numbers do not include a small fatality from hæmorrhage due to unspecified causes, nor is any allowance made for possible deficiencies in registration.

Dr. Draper, in answer to a question by Dr. Chadwick, said that the data were obtained from the registration officers throughout the State.

DR. CHADWICK said that in compiling statistics of infant mortality from

the registrar's books he had found the comparisons which he had sought to make with the birth-rate vitiated by the fact that all infants who were reported as having died under one year of age were at once entered as having been born in the city.

DR. DRAPER replied that he did not think the statistics were open to serious errors in such cases as he had referred to, because a death from either one of the causes mentioned is of so striking and unmistakable a character as scarcely to admit of uncertainty as to its nature.

DR. INGALLS remarked that in some towns the town clerk sends in for a list of births and deaths.

DR. WELLINGTON said that in Cambridge a man was sent about to ascertain the number of births during the year.

DR. DRAPER said that the returns were obtained by an annual or semi-annual canvass, and that in the present condition of the populations as regards density this was the most practical and accurate method in his opinion.

Puerperal Convulsions. — DR. WELLINGTON reported the case, which he saw, the evening before, in consultation with Dr. Taylor. For two months previous to labor the woman had exhibited the symptoms of dropsical swelling, headache, and pallor. On the day before his visit the labor began and convulsions occurred. At that time the os was not dilated. The convulsions were severe, and but partially controlled by ether. Dr. Taylor dilated the os with the fingers, and in the course of the day or night it was large enough to admit of turning and delivery. The convulsions, however, did not cease. The ether was less efficacious than it is ordinarily in such cases. In the evening, at the request of Dr. Taylor, he visited the patient with him. Her condition was bad; she was unconscious. The pulse was feeble. She had been etherized freely, and had taken a moderate amount of chloral. Bleeding had not been resorted to, as the case was not a suitable one for this procedure. It was decided to try morphia, and accordingly a quarter of a grain was injected into the arm. The next fit was in every way milder; two more occurred, and then a second quarter of a grain was injected. No more convulsions ensued, and the patient had a quiet night. The next morning consciousness had returned, and she was comparatively comfortable, with a pulse of 120. Strong hopes were entertained of her recovery. The use of the morphia was begun about thirty-six hours after the beginning of labor.

The patient died a week later, apparently from pyæmia. She had no more convulsions.

DR. LYMAN said he could not understand why morphia should not be given in all such cases.

DR. SINCLAIR asked how the ether had been given.

DR. WELLINGTON replied that it had been given continuously.

DR. SINCLAIR remarked that if the patient be allowed to recover the sensibility of spinal irritation convulsions may ensue, while continuous etherization would prevent them.

DR. ARNOLD mentioned a case in which convulsions had continued to occur for twenty-four or thirty-six hours after delivery, but were at once arrested by the administration of a turpentine injection. Confinement took place August

30, 1867, and was one of the first cases in which the os uteri was dilated fully from the first, until forceps could be applied, that occurred in his practice.

Catheterism. — DR. CHADWICK described a method of passing the female catheter, which differed somewhat from the ordinary method, and was easier for both patient and physician. The paper will be published in full.

Typhlitis. — DR. STEDMAN exhibited the specimen and gave an account of the case.¹

DR. LYMAN said he had never met with cases of this disease in which there was not acute pain, more agonizing even than the pain of peritonitis, and strictly localized, and instanced two cases. There was also a constant feeling on the part of the patient, not exactly of tenesmus, but as if a movement of the bowels would relieve the pain. He had, therefore, felt some doubt about the diagnosis, though disposed to coincide with Dr. Stedman when he saw the case; he asked for the experience of members in the symptoms of the disease, and also whether any had seen cases of suppressed scarlatina.

DR. WELLINGTON replied that he had noticed that the pain was chiefly local, but did not recollect that the patients had complained of a constant desire for a movement of the bowels.

DR. INGALLS recalled two cases which occurred in the City Hospital three years ago. In these the pain was not of the character observed by Dr. Lyman, but more like a belly-ache than an acute pain; what pain there was, however, was strictly localized. There was no other acute disease present in either of the cases.

Feline Monstrosity. — DR. ARNOLD exhibited the wet preparation of a double-headed kitten. It had four eyes and two mouths, and lived several days.

VIRCHOW ON THE PENGE CASE.

WE are glad to find that the foremost of living pathologists, who, like us, can look quite impartially on this remarkable trial, should have come to the same opinion which we expressed two weeks ago, to wit: that the medical evidence did not justify conviction. After the commutation of the sentence of the accused, Professor Virchow published a review of the medical evidence in the *Berliner klinische Wochenschrift* of October 29th,² which is not only most instructive but most entertaining reading. We modestly limited our discussion to the bearing of the medical evidence, but the veteran pathologist does not conceal his contempt for the manner in which the examination was made. He criticises severely Drs. Longrigg and Wilkinson, but later he turns on their critics, Drs. Greenfield and Paine, and one fares as badly as the other. No one escapes unscathed. Professor Virchow claims, very justly, that the greatest accuracy in the report or protocol of the examination should be insured by legal enactments, as it is in Germany, and points out that the want of this accuracy is one of the prime causes of distrust of medical evidence. "What sort of an opinion must judges, ministers of state, or indeed the public gener-

¹ See JOURNAL, December 28, 1876, page 756.

² An English translation will be found in the Medical Examiner of November 1st.

ally form with regard to professional men who are not only unable to ascertain facts, but whose evidence with regard to facts which have come under their mutual observation is of such a conflicting character!"

He dwells on the discrepancy of the notes taken concerning the apparently tubercular deposit in the membranes of the brain, and on the confusion that a want of knowledge of the anatomy of the arachnoid gave rise to, and is particularly severe on the use of the word "small" as applied to pathological changes. We quote from him again: "Dr. Wilkinson says, 'The brain and membranes were healthy, with the exception of a small recent patch of tubercular deposit upon the arachnoid membrane on the upper part of the left hemisphere about the size of a four-penny piece.'

"The only fourpenny-piece which I possess is twenty-one millimetres in diameter. This is not inconsiderable, and in Germany scarcely any one would say that a deposit of tubercle in the pia mater to that extent was a small one."

Later he takes up Dr. Wilkinson's description of the apex of one lung, in which there was said to be "a small patch about one and a half to two inches square, containing tubercular deposit (gray and hepatized)." "Here," says he, "we have another extraordinary definition of size. A patch of one and a half to two inches square (probably cubic measurement is meant) we should not describe as small, and if the inclosed mass was recognized to be gray and hepatized it would be hardly possible for any one of us to decide on describing off-hand this hepatization as inactive. It is very evident that these experts have yet to learn terminology. They use medical terms partly of their own invention and partly on trust, and their hearers may draw such conclusions of their own as may appear to them to be correct."

He makes the very just criticism on Dr. Greenfield, who wrote strongly for the defense, and whom the *Medical Times and Gazette* apparently followed in saying that the autopsy showed death by tubercular meningitis, that he "quite puts aside the possibility that the case was one of starvation." Professor Virchow concludes with the following patronizing words, which, no doubt, will be very soothing to our British cousins: "This is my opinion, plainly expressed. May it assist in conveying clear views to the other side of the Channel, and in introducing elementary knowledge, method, trustworthiness, and wise reserve into medico-legal practice."

THE WARREN PRIZE.

WE are glad to give place to the following announcement of the Warren triennial prize, addressed to the Editors:—

The Warren prize committee, consisting of the visiting physicians and surgeons of the Massachusetts General Hospital, have awarded the prize of the present year, amounting to \$371.41, to E. O. Shakspeare, M. D., of Philadelphia, for an essay On the Healing of Arteries after Ligation.

The committee also announce that the subject for 1880 will be Original Observations in Physiology, Surgery, and Pathological Anatomy.

Essays should be forwarded to the resident physician, Massachusetts General Hospital, Boston, on or before February 1, 1880. The amount of the prize will be \$400.

Your obedient servant,

R. M. HODGES,

Secretary Physicians and Surgeons of the Massachusetts General Hospital.

November 13, 1877.

The conditions of the prize lately awarded were similar to those given in the announcement, the object, we understand, being to stimulate original researches. As evidence of the success of the plan to leave to the competitors the choice of a subject within certain limits, it may be mentioned that the number of essays presented was large. We learn that a dissertation on Pneumodynamics and one On Certain Points on the Physiology of the Nervous System were highly praised by the committee for their merit. A third, On Bone, was much admired for the superb illustrations which accompanied it and the great labor which its preparation evinced, particularly that portion devoted to Dentine.

The success of the committee in thus bringing out work of a high standard from original investigators is a subject for congratulation. This is but the second award which has thus far been made, and the reputation of the prize, if we may use the term, may be said already to be established. We are happy to hear that essays were sent from distant portions of the country, and it is rumored that one came across the Atlantic. Both prizes hitherto awarded have been captured by Philadelphia. While hoping that the participation in the contest for the coming prize may be general, we should be glad to see it carried off by one of our fellow citizens, and thus justify the reputation which our city possesses for "higher medical education." We trust, at all events, that many may thus be stimulated to contribute to the cause of medical science.



THE ABUSE OF MEDICAL CHARITIES.

THE interest in this subject is decidedly on the increase, and we hope that such of our readers as have given attention to it will favor us with their views. We have only to suggest that those who agree with us should state their opinions with great mildness, or they may give offense to an extent they never dreamed of. We had supposed that the justice of Dr. Davy's remark that a young practitioner needed some little income apart from his profession was so universally acknowledged as to make it innocent to quote it, but Dr. Rogers tells us that "if the defense of the present system involves the necessity of drawing a money line in the admissions to the profession it may ultimately prove more creditable not to undertake its defense." We have not the least idea what this means, but we feel that it is severe. We should be slow to forget that many eminent men have worked their way from poverty by their ability and perseverance, but they are rare exceptions, and all of them were animated by great enthusiasm and supported by merit; but there is another picture which is far more common and less pleasant. It is that of young men once honest and earnest, some indeed of even brilliant promise, who from want of pecuniary success in their early years of practice have taken to doubtful

professional courses and less than doubtful associates, and who in all the larger cities present a perfectly well-known type and constitute what we may call the dangerous medical class. Once they wished to do right, but the need of money was too much for them. The story is as sad as it is true.

Now would these men, or even some of them, have been saved had it not been for out-patient departments? Dr. Rogers would no doubt say, "Yes," for he differs from us in thinking that closing these departments would materially assist the young practitioner. Mere assertion on either side is useless; we hope some one will favor us with evidence, if there be any.

The *Medical Record* affects to be able to answer our assertions, but declares that they are not to the point. The writer surely has seen but little of minor surgery if he does not know that it is better practiced at clinics than by the quacks, apothecaries, and ignorant practitioners who cannot recognize fracture of the lower end of the radius and who "draw" felons. The main argument of the *Record* is that the present system is demoralizing the community; we frankly admit that it has its evil side, but we cannot approve of closing dispensaries and out-patient departments, and what other remedy is there?

MEDICAL NOTES.

— The *Medical Times and Gazette* calls attention to a recent paper by M. Lunier on Alcoholism in France. The writer observes that wine is the true national drink, of which the mean annual quantity consumed for the last ten years has been fifty million hectolitres, about one hundred and twenty litres per inhabitant per annum. The consumption of cider has diminished; that of beer has been constantly increasing, so that it has augmented from about 8.25 litres per head in 1825 to about twenty-two litres at the present time. The consumption of alcohol has progressively increased for the past forty years from two litres per head in 1839 to nearly three litres now. The departments which consume most alcohol are those which do not consume wine. The alcohols of commerce are more mischievous in their action than wine. Accidental deaths due to excess of drink are for the most part met with in the departments which consume most alcohol. They rarely occur in those in which wine is drunk. Prosecutions for drunkenness are five times more numerous in the departments which consume alcohol than in those where wine is drunk. It is the same with cases of insanity due to alcohol, the proportion being almost everywhere in direct relation to the consumption of alcohol, especially the alcohol of commerce.

— During the past year, it is reported, that at Kiukiang, in China, there has been an alarming mortality among dogs, due to worms in the heart. The left ventricle has in some instances been found to be almost completely filled with them, but the reporter, Dr. Jardine, believes them to be comparatively harmless as long as they remain in the cavities of the heart, and that it is only when they obstruct the passage of blood through the orifices or impede the action of the cardiac valves that they prove fatal. No clue has been obtained as to their origin.

— The *Lancet* states that official reports show that there are now two facul

ties of medicine in Brazil, one at Rio and the other at Bahia, towards which the state contributes from thirty thousand to thirty-five thousand pounds per annum. It appears that the profession is very popular in that country, and that young men of good fortune, who have no serious intention of practicing, not unfrequently graduate as doctors of medicine, much as the same class in England are called to the bar. The course of both faculties extends over six years. A total of seven hundred and fifty students matriculated in 1874, and eighty-five degrees of doctor of medicine were conferred in the same year. Foreigners who wish to practice are required to pass an examination, for which a diploma from any recognized European medical college qualifies.

— MESSRS. EDITORS, — Doubtless many of your readers remember, among the various relics on the walls of the room of the Massachusetts Medical Society, a large old engraving of the room — “In Bolt Court” — of the Medical Society of London, and some twenty of its leading members attentively listening to the famous Dr. Lettsom, whose lank, tall figure in Quaker dress is standing in the foreground. The print was published in London in 1801. Many years since, during one of my frequent strolls among the old book and print shops and stalls of New York, I discovered that, singularly enough, the original “copper” was owned by Mr. A. Dexter, 50 West Thirty-First Street, in that city, but I was unable to obtain an impression. A few days since, Mr. Dexter sent me word that he had struck off ten copies. One of these I have just received. The plate is evidently little worn, for my copy is quite a good one. It is possible that some of the readers of the JOURNAL may be interested to know the facts that I have stated. The twenty-two heads are all portraits, and the names are inscribed in the margin of the print. Among them are Jenner, Lettsom, Woodville (the famous vaccinator), Ware (the ophthalmologist), and Sims (the president). The likeness of Jenner is a good one, as indeed are all those of which I am able to judge by comparison with portraits of acknowledged excellence.

H. A. M.

27 DUDLEY STREET, November 8, 1877.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. GEORGE W. GAY.

[REPORTED BY O. H. MARION.]

CASE I. *Amputation of Arm for Railroad Injury; Torsion; Recovery.* — E. H., age eight years, was found on the railroad track with his right arm crushed, September 24, 1877. He was brought to the hospital in a semi-conscious state, unable to give any account of the accident. The right arm was crushed at and above the elbow to within three inches of the shoulder-joint, and was attached only by the large vessels and nerves and a small strip of skin. There was a scalp wound over the right parietal bone, extending through the pericranium and laying the bone bare for an inch. The boy was pale and restless, and had a pulse of 80, of fair condition, with warm extremities, and there was no vomiting. Ether having been administered Dr. Gay amputated the arm, sawing the humerus about two inches below the shoulder-joint. The

arteries, three in number, were readily secured by torsion, and no ligatures were applied. An irregular external flap was made, a portion of it being composed of the skin torn up by the car wheel or whatever caused the injury. It was accurately and carefully closed by silk sutures, and no provision was made for drainage. A compress wet in compound tincture of benzoin was applied and secured with a bandage. The scalp wound was dressed in the same manner.

The patient vomited several times, and had five thin stools during the night. He was put upon enemata of milk and brandy, with a little laudanum, until vomiting ceased. Forty hours after the operation the wounds were redressed. They were dry and free from any discharge, and the patient was very comfortable indeed. Diarrhœa and vomiting had stopped, and he was taking food well.

The next day (September 27th) there was considerable oozing of a thin fluid from the stump. Two sutures in the centre of the wound were removed, and a small silk seton was gently introduced. The same dressing was continued. Six days after the operation the sutures were all removed; the discharge was slight, and was of an oily nature like synovia; the flaps were united in two thirds of their extent; there was and had been no pain, chills, or any other unfavorable symptoms whatever.

October 11th (seventeenth day). The little fellow was out of his bed, feeling well. He was discharged in twenty-nine days entirely recovered.

[*Remarks.* This is the second case of amputation for railroad injury to the arm in children in which we have used the flap of skin made by the train with success, and, furthermore, we have as yet seen no bad results from such a course. Even if the flaps do slough, a patient, in many instances, is safer in undergoing two moderately severe operations, one of them being secondary, than he would be if the shock of the injury were increased by that of an amputation through comparatively sound tissues. The patient's safety is the *first* question for consideration, and a comely stump the second.

This is the thirteenth major amputation in this hospital in which the hæmorrhage has been controlled by torsion. This method has never failed, with one exception, and has in no case been followed by hæmorrhage. The essential point for its success is to thoroughly separate the artery or vein from its sheath. The only failure experienced by us occurred in the first case in which the method was tried, and was due to our neglect of this precaution.

Dr. Fiffeld has used torsion in two cases of amputation of the arm, two of the leg, and one of the thigh. We have used the method in one amputation of the arm, two of the fore-arm, three of the leg, one of the knee-joint, and one of the thigh. After a little practice a vessel can be twisted almost as readily as it can be tied. Small vessels which cannot be easily separated from their sheath are not suited to this method, and had better be secured in some other way.

If future experience should prove that catgut does not act as a foreign body in a wound it would seem that that material must supersede all others for securing vessels. Mr. Holmes, in his last work on surgery, gives his preference to this material as a ligature over torsion for the reason that most sur-

geons would feel safer in knowing that the vessels had been tied with something than that they had been simply twisted. — G. W. G.]

CASES II. and III. *Inguinal Hernia treated for Radical Cure by Heaton's Method.* — O. McL., a waiter, age twenty-four years, had a reducible hernia of six months' standing. He had worn a truss. The rupture was oblique and situated on the right side. The external ring very readily admitted the forefinger and invaginated scrotum a considerable distance.

September 9, 1877. The hernia having been reduced Dr. Gay injected about ten drops of the white-oak bark solution. A firm compress and bandage were applied, and the patient was put to bed.

M. S., a sailor, age, thirty-four, entered the hospital September 8, 1877, with a rupture similar to that of the preceding patient, of seven months' duration.

It was reducible, and he had never worn a truss. The same operation was performed upon this man as in the last case, and on the same day. The two patients were treated precisely alike. Neither patient had much pain during or after the operation. Ether was not used. Opiates in very small doses were required for a few days to keep the bowels quiet. There was no subsequent tenderness or swelling over the hernia. At the end of three weeks the external ring in both cases was reduced fully one half in size, and the bowel showed very little tendency to come down when the patients stood up. The first patient was discharged in five weeks, wearing a bandage. The second was discharged in four weeks, and advised to wear a light truss, as his work as a sailor is very laborious.

[*Remarks.* These two cases are reported, not as cases of cure, but to show the condition of the parts at the end of a few weeks. There was certainly great improvement, but it is to be feared that without some support the rupture will return. The operation would seem to be comparatively free from pain and danger, and furthermore to promise a certain amount of benefit. It deserves further trial. — G. W. G.]

LETTER FROM PHILADELPHIA.

MESSRS. EDITORS, — Business interests, as a rule, are dull enough at present in Philadelphia, and show scant signs of speedy amelioration. Judging, however, from the unusual numbers of students in attendance upon our various hospitals and the college lectures, we conclude that medical matters are decidedly prosperous, in so far, at least, as the success of our schools may be taken as the measure or exponent of that prosperity. At Jefferson College it is already evident that the class of last year will be equaled, of which it was said that "it was a larger number than ever convened, at one time, in any other medical school in the country." The new experiment of the University of Pennsylvania, just inaugurated with the opening of the present session, has been already — we hope not too hastily — pronounced "all that could be desired. There are one hundred and thirty first-course students entered for the three years, and the general paying class is as large as it was last year."¹

¹ Philadelphia Medical Times, vol. viii., p. 35.

Some peculiar circumstances attended the opening exercises of the two medical schools which render them especially noteworthy. According to custom both colleges began upon the same day, the address at the University being delivered at noon, that of the Jefferson in the evening, of the first ultimo, being the first Monday in October. Dr. William Pepper, professor of clinical medicine (one of the new chairs instituted in 1876), was orator at the University, while at the Jefferson the introductory lecture was delivered by Dr. Robert E. Rogers, professor of chemistry, who, it will be remembered, was for a quarter of a century a member of the faculty of the University of Pennsylvania. The theme selected by Professor Pepper was Higher Medical Education, in which he discussed the plan recently adopted at the University. Professor Rogers also devoted a few remarks, at the close of his address of welcome to the students, to the demonstration of what the Jefferson has been quietly and unostentatiously doing for the cause of medical progress, and its present ability to sustain a reputation firmly established by more than fifty years of uninterrupted prosperity and success. Ten years ago the faculty of Jefferson College originated a plan for a summer course of lectures, commencing the last week in March and closing at the end of June for a summer vacation, and an autumn course, beginning on the first Monday of September and continuing until the opening of the winter term, on the first Monday in October, making an almost unbroken period of nine months of lectures and study in each collegiate year. Five years later the same authorities, in order to have a graded course and induce students to give three years to their college education, instituted a rule that "those students who have attended two full courses on anatomy, chemistry, materia medica, or institutes, may be examined on any of these branches at the end of their second course." They are thus enabled to devote their last (third) course entirely to the didactic lectures on the remaining branches, and to clinical study in the college hospital and dispensaries, or in walking the other hospitals. The feature which, of all others, has distinguished the career of this school and contributed more than anything else to its just popularity and renown, to which, of all the schools in the country, it was the *first* to give prominence, and to which it has, with improving advantages from year to year, earnestly adhered, has been *systematic clinical instruction*, to which might be added with propriety the statement that clinical lectures are delivered on each day of the week through nine consecutive months in the year.

In the rear of the college building has been erected the Jefferson College Medical Hospital, five stories high, complete in all its equipments as a hospital of the first class, which is now open and receiving patients. Being especially erected with a view to clinical and bedside instruction, it has a well-lighted commodious amphitheatre on the first floor, capable of seating seven hundred students, in which daily clinics are held during the summer and winter sessions. A detailed description of this building may be found in the editorial columns of the *Philadelphia Medical Times* for October 27, 1877.¹

With a view further to improve the resources of the school the board of trustees are erecting and will soon have completed a new four-story building adjoining the Medical Hall on Tenth Street, provided with spacious rooms

¹ Also in the JOURNAL, vol. xcvi., page 236.

for the reception of apparatus, the additional museum, and supplemental dissecting-room, and for laboratories for practical instruction in minor surgery, chemistry, physiology, and microscopy, wherein the student may, by personal manipulation, familiarize himself with the details of these several important branches of his professional studies.

Professor Rogers concluded his address with the statement of the present organization of the college faculty and hospital staff, followed by this peroration : —

“Under a general management of the institution so watchful and judicious, with a faculty aided by a corps of associates in the hospital staff and dispensary service, and in the autumn and spring courses of instruction, and by the demonstrators and assistants, all so earnest in their work, and with the opportunities of practical teaching, such as we have briefly set forth, the friends of the Jefferson Medical College feel assured that the firm grounding in professional knowledge at which it has always aimed will now be better secured by its pupils than has heretofore been possible; and they believe that while thus contributing in the most effectual because really most practical way towards enlarging the benefits and elevating the standard of medical education, it will not only maintain the reputation and prosperity already acquired, but accomplish in the future even more than it has achieved in the past.”

A pleasant surprise was in store for the lecturer, for, at the close of the address, one of the under-graduates stepped forward, and, in the name of the class, in a very neat address, presented Professor Rogers with a handsome silver vase as a greeting and welcome from the students, and as a token of their appreciation of him as a teacher.

The address of Professor Pepper upon Higher Medical Education contains many considerations worthy of thoughtful attention, and is, it is needless to add, an able and thorough essay. As the address has not yet been published, we are indebted to the author for the advance sheets, from which we would willingly make extracts did space permit. The following statements, however, are so extraordinary that we cannot forbear reproducing them, as they are certainly important if true : —

“For many years the course of medical education in this country has been smooth and uniform. Few new features have been introduced; still fewer important changes or improvements have even been suggested.” “Each annual course is, as a rule, the mere repetition of the preceding one.” “This plan compels the teacher to repeat year after year the same course of lectures, in order that the successive crops of students may begin at the beginning.” “The only direct receipts of the school are the fees of the students; and thus the faculty is urged by every argument of self-interest and vanity to spare no effort or expedient by which the size of the classes may be augmented.” “Hence it becomes necessary under the working of inexorable laws of trade for each college to keep down the cost of its diploma, the length of time required to obtain it, the standard of requirements, and the severity of the examinations, in order that it may compete successfully with its neighbors.” “The schools have joined in the ruinous policy of reducing their fees, shortening their term of studies, and lowering their standard of requirements in order

to avoid being underbid by their rivals." "The unprincipled competition between the schools to secure the largest classes of students and the easy rates at which diplomas are obtainable have stimulated extraordinary numbers to study medicine." "Thus it has resulted that our medical schools are to all intents private business corporations, frequently trading under the sanction of a board of trustees and the dignified title of university, but in reality conducted in the interests not of the medical profession, not of the community, certainly not of medical science, but of the members of the faculty alone." The professor paints a gloomy picture, of which the fidelity to nature, however, is rather questionable. As he has mentioned no exceptions and has not acknowledged any, the condemnation is too universal, the charges are too sweeping, to be strictly just. They come home to the alma mater as well as to the other schools of high standing that still follow the path she esteemed honorable, and which she truly honored by her influence and example for more than a hundred years. What is the nature of the change at the University may be inferred from other portions of Professor Pepper's address: —

"It was announced to the world in May, 1877, that the system of medical education which had been conducted here for more than a century had been replaced by a higher and better system." "It is evident, therefore, that from this time forward those medical students who wish to secure a diploma at the lowest price, in the shortest time, and, I need not add, of the lowest value, will find no place in the class of the University. But, on the other hand, all those students who are willing to give three years to the study of the profession and are anxious to obtain a thorough education will find that *the course of this University presents the greatest advantages for the least cost.*" "I trust that I have made it clear that not only the highest motives but also the claims of self-interest urge all students to pursue such a course of instruction in medicine as is established at this university." "By the liberality of the board of trustees the recommendation of the medical faculty has been approved, which provides a certain number of free scholarships, open by competitive examination to *all* deserving applicants. It is the expectation that *as the endowment of the medical department increases the number of free scholarships will be correspondingly increased*, so that the advantages of the University course shall be accessible even to the poorest, if only possessed of merit and ambition."

The new plan adopted by the University is said to be similar to that inaugurated in 1871 by Harvard, the chief points of difference being that Harvard requires a graded course of three years' study of nine months each, with recitations and periodical examinations; the modified plan, as we understand it, substitutes five months for the nine, discards recitations, and does *not* make attendance upon the lectures an essential for examinations.¹ It has even been asserted that the lectures on surgery and practice of medicine in the third year are the same as those of the second course, in which case the improvement may be thought to be more apparent than real. An alumnus² of the University thus sums up the difference from another point of view: —

¹ Editorial, Philadelphia Medical Times, vol. vii., p. 402.

² Letter to Philadelphia Evening Star.

OLD COURSE AT THE UNIVERSITY.

Number of lectures per week 28 (not including clinical lectures) ; in five months, 560, or 80 on each of the seven branches.

In two sessions 160, or in three years (optional, without extra cost) 240 lectures on each of the seven branches. Total, 1680. Expenses, \$315.

NEW CURRICULUM.

Number of lectures on anatomy, in three years	160
“ “ “ “ physiology, in three years	120
“ “ “ “ surgery “ “ “	160
“ “ “ “ practice “ “ “	160
“ “ “ “ obstetrics “ “ “	120
“ “ “ “ chemistry “ “ “	60
“ “ “ “ materia medica, in three years	20

Expenses, \$455.

Total 800

Difference, eight hundred and eighty lectures on the fundamental branches in favor of the old method. By the new plan a graduate who has heard twenty lectures on materia medica is considered as better qualified to practice medicine than one who attends another college where he hears two hundred and forty lectures upon this important subject in the same space of time.

Nearly seven years ago Professor Gross, in an address¹ delivered before the Alumni Association of Jefferson College, made use of the following remarkable and suggestive language :—

“ My ideal of a great medical school is far in advance of anything we have at present in this country, or anything we are likely to have for some time to come. Every institution of this kind should be connected with its own hospital and be, if possible, under the same roof. Daily clinical instruction should play a prominent part in its curriculum. The number of didactic lectures should be materially diminished, and more time devoted to practical teaching under the supervision of competent assistants.” “ Such a school as is here contemplated should have a chair of Pathological Anatomy, a chair of Medical Jurisprudence, and a chair of Medical History and Medical Ethics. In addition to these fundamental branches special instruction should be delivered upon Insanity and Medical Psychology. All these studies should be made obligatory as a part of the curriculum of college instruction.” “ The term of study should be increased to four years, embracing four courses of lectures of nine months each.” “ The examinations for the degree of doctor of medicine should be conducted by a separate board, one entirely independent of the school in which the student has attended lectures.”

“ A higher standard of preliminary education should be demanded, and no applicant should be admitted unless he is a man of high culture and refinement, or, in other words, a thorough gentleman, ambitious to uphold the honor and dignity of the profession.” “ If the Philadelphia, New York, and Boston schools should unite upon a plan of this kind, I see no reason why it could not be carried out. There might be a temporary decline in the number of pupils, but the public would soon see the difference in the graduate ; and the ultimate result could not fail to be in favor of the institutions that would have

¹ An Address delivered before the Alumni Association of the Jefferson Medical College of Philadelphia at its First Anniversary, March 11, 1871, by S. W. Gross, M. D., LL. D., Professor of Surgery in the College and President of the Association.

the courage to take the initiative in a reform in every respect so desirable and proper."

It would really appear as if the most important step for our medical schools to take is the establishment of a preliminary examination, which, indeed, we believe is contemplated at Harvard, and from Professor Pepper's address we learn that it is ultimately intended at the University of Pennsylvania. When this is instituted by a few of the leading schools the remainder will be glad to adopt it, either voluntarily or by the force of public opinion. Every true advocate of medical progress will herald this as a substantial advance towards higher medical education in the United States, and anything less than this will be a gain less real than nominal. Moreover, no matter how many examinations are introduced into the course, until the preliminary examinations are established the colleges are certainly obnoxious to the charge of taking fees from men whom they know cannot meet this test, and who are liable to be dropped at one of the subsequent examinations after they have paid their money, which savors of injustice if not of dishonesty. We hope soon to hear that Harvard has taken the initiative in this matter,¹ as she has done so nobly before in the matter of graded instruction, which has undoubtedly given a new impulse to the cause of medical education in this country.

We are taking much interest in Philadelphia in the next revision of the United States Pharmacopœia, and committees of our College of Physicians, County Medical Society, and the College of Pharmacy are busy in the work and have had several meetings. In this connection it may be stated that after more than twenty-eight years of usefulness in private life the Philadelphia County Medical Society was finally incorporated October 2, 1877, this partly with a view to right of representation in the National Convention for Revising the Pharmacopœia, which meets at Washington in 1880.

A new series of original American medical lectures has been announced to be issued monthly, edited by Dr. I. Minis Hayes, of this city, and published by Mr. H. C. Lea. The first of the series appeared in the *Medical News and Library* for November 1st, and is on the subject of Convulsions in Typhoid Fever, by Professor DaCosta. We are informed that arrangements have already been completed for 1878 with some of the leading medical writers in the country.

Last Saturday, at the Jefferson Medical College Hospital, Professor Gross, at his clinic, operated for lithotomy by the lateral method upon a boy of twelve years, removing the largest stone that he had ever seen in a boy of this age. It was of the oxalic-acid variety and weighed one ounce and five and three fourths drachms. Immediately afterward his son, Samuel W. Gross, removed an osteoid tumor, springing from the cancellous structure of the ascending ramus of the lower maxilla, in a woman. It had been the seat of neuralgic pain for three years.

We have just learned with regret that the venerable Paul F. Eve has passed away; we had the pleasure of seeing him at the last International Medical Congress one year ago.

PHILADELPHIA, November 9, 1877.

¹ Our correspondent does not appear to be aware that Harvard has already done so. — EDS.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING NOVEMBER 10, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	459	22.16	27.46
Philadelphia	850,856	241	14.73	22.88
Brooklyn	527,830	177	17.43	24.31
Chicago	420,000	123	15.23	20.41
Boston	363,940	120	17.14	23.39
Providence	103,000	48	24.23	18.34
Worcester	52,977	16	15.71	22.00
Lowell	53,678	16	15.50	22.21
Cambridge	51,572	11	11.08	20.54
Fall River	50,372	24	24.77	22.04
Lawrence	37,626	15	20.73	23.32
Lynn	34,524	13	19.57	21.37
Springfield	32,976	6	9.46	19.69
Salem	26,739	5	9.72	23.57



OBITUARY. — At a meeting of the Berkshire District Medical Society, held November 12th, the following resolutions were unanimously passed:—

Whereas, Our beloved brother, Dr. Henry Pratt, of Lanesborough, has been removed by death,

Resolved, That we deeply mourn the loss of a friend endeared to us by his many manly virtues, and of a physician whose high attainments and ripe wisdom rendered him justly distinguished in his profession and a valued member of this society.

Resolved, That we are deeply impressed with the heroism of our friend's character, which, causing him fearlessly and confidently to combat disease in his professional capacity, did not forsake him when he became himself the sufferer, but enabled him to bear severe and prolonged suffering and to face death itself with an admirable Christian fortitude.

Resolved, That we tender our heartfelt sympathy to his bereaved family, and commend them to the care of Him who is "a Father of the fatherless and a judge of the widows."

Resolved, That a copy of these resolutions be sent to the family of our deceased brother, and also to the Boston Medical and Surgical Journal and the two papers of Pittsfield.

A true copy: Attest,

J. F. A. ADAMS, M. D.,

Secretary Berkshire District Medical Society.

PITTSFIELD, November 13, 1877.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday evening, November 24th, at seven and a half o'clock. The following papers and cases will be read:—

Dr. N. Folsom will show the model of an improved water-closet bowl.

Dr. D. Hunt, a notice of Dr. Garland's paper on Pneumono-Dynamics.

Dr. M. E. Webb, a case of Disease of the Knee-Joint, with specimen.

Tea, etc., at nine o'clock.

BOOKS AND PAMPHLETS RECEIVED. — Walsh's Physician's Handy Ledger, and Walsh's Physician's Combined Call-Book and Tablet. Published by Ralph Walsh, M. D., 326 C Street, North West, Washington, D. C.

What Anæsthetic shall we use? By Julian J. Chisolm, M. D. (Read before the Baltimore Academy of Medicine.) 1877.

Stricture of the Urethra. When and how shall we perform Internal Urethrotomy? By Claudius H. Mastin, M. D. (From the Richmond and Louisville Medical Journal.)

Physician's Vade Mecum and Visiting List. Arranged and prepared by H. C. Wood, M. D. Philadelphia: J. B. Lippincott & Co. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, NOVEMBER 29, 1877. — NO. 22.

LACERATION OF THE FEMALE PERINÆUM.

BEING A CLINICAL LECTURE.

BY WILLIAM GOODELL, M. D.,

Professor of Gynæcology in the University of Pennsylvania.

GENTLEMEN, — I intend to operate before you to-day for laceration of the female perinæum. This accident generally occurs among the poor who are attended by midwives or medical students. Rents of the perinæum are called complete or incomplete, according as the sphincter ani is or is not involved. Most commonly the rent is incomplete. The causes of a laceration may in general be divided into two. One cause is the common, faulty mode of supporting the perinæum. The diversity of opinion in this matter of support is very great. My advice to you is to make your support or retarding pressure (to imitate as nearly as possible the course of nature) directly to the head itself and not to the perinæum. When the perinæum is very rigid I relax it by hooking up and pulling forward the sphincter ani with two fingers passed into the rectum, while with the thumb of the same hand I make the needful restraining pressure upon the head. Lacerations from this cause generally stop short of the sphincter ani. Another cause of this injury is a forceps delivery. Why is a forceps delivery so often the cause of injury to the perinæum? In the first place, through a false delicacy, many physicians deliver the child under the sheet. They work in the dark, and of course cannot see what they are about. Under these circumstances, in difficult cases, the physician, worn out by direct traction, is very likely to brace one or both of his feet on the edge of the bed. The traction thus exerted is uncontrollable, and when the head passes the brim, which it usually does with a jerk, its momentum cannot be checked before it has torn its way through the perinæum. Again, in cases apparently requiring but little traction, the use of the forceps will often occasion a slight tear in the vagina, which the passage of the shoulders prolongs through the perinæum. Delivery by the forceps, even in skillful hands, will often produce a very bad rent involving the sphincter ani. My advice therefore to you is that *in general, and always with primiparæ, you take off your forceps as soon as the perinæum be-*

gins to bulge, and that you leave the final delivery of the head to the expulsive efforts of the patient.

But supposing that, in spite of the greatest care, a rent has been made. What is then to be done? First, discover the rent. You may smile, but you should know that from over-delicacy or carelessness on the part of the physician lacerations are continually escaping notice until it is too late to perform the primary operation; the torn flesh has healed, preserving the rent. You should make it an inflexible rule after every delivery either to look at the perinæum or to gauge its thickness between the thumb in the vagina and the index finger in the rectum. If you discover a rent your method should be, immediately after the delivery of the placenta, to pass deeply two, three, or even more wire sutures, securing each one by merely twisting its ends together. Each suture is entered about an inch from the cutaneous margin of the wound, and is made to emerge on the mucous membrane of the vagina very near the edge of the raw surface. The first stitch must always be put in a little *below* the lower angle of the wound. Should the lochia obscure the parts, dam them back by a sponge pushed well up into the vagina, and don't forget to remove the sponge before you twist the ends of the wires together. Then draw your patient's water, put a pad between her knees, and bind them together. If the rent is incomplete no other treatment is necessary except that of keeping the bowels bound for a week. But when the rent extends to or through the sphincter ani, or when several deep sutures have been introduced, then the same precautions must be gone through with, namely, those of drawing off the urine, of binding the knees together, and of keeping the bowels costive, etc., as I shall enjoin upon you when describing the after-treatment of the secondary operation. While warmly advocating the primary operation, I have not found it on the whole so successful as the secondary. Thus by the former I have had two failures so far, by the latter none. Failure in the primary operation is usually owing to the irregular surface of the rent, which prevents exact coaptation, and to the lochial discharges which insinuate themselves between the surfaces of the wound and hinder union.

Let us suppose, however, that, as in the case before us to-day, the laceration was not discovered until entirely too late for immediate treatment, and that the woman has gone about until this day with vulva and anus torn into one great opening. A woman under these distressing conditions suffers untold miseries. The sustaining power of the vaginal column is impaired by such an injury to its perineal abutment, and the bladder and womb tend to sag down. The vulva gapes, it acts no longer as an elastic, air-tight valve, and the womb and vagina become irritated and congested by the air which gains access to them. The air thus sucked up into the vagina is liable to escape audibly, con-

stituting that disorder which the Germans call "garrulity of the vagina." Again, rents of this kind are attended with more or less impairment of the sexual function. The sexual act is blunted on the part of the male, and imperfectly responded to by the female. The shortness of the vagina causes the semen to be rejected, and the woman becomes barren. Last and most grievous result of all, there will be a constant involuntary escape of flatus, and an incontinence of the fæces when at all liquid. The woman's clothing is soiled without warning; her person becomes repulsive to her husband, and her company undesired by her friends. Seclusion and mental anguish undermine her constitution. To keep her bowels costive the woman is obliged to rely upon daily doses of opium.

Having traversed all this extremely valuable ground as a preliminary, I am now ready to speak to you about the secondary operation, and then to perform it in your presence. This woman, five years ago, in her first labor, met with the mishap of having her perinæum very badly torn. Her physician, a man of large experience, put on the forceps, and in delivering the head this accident happened and was allowed to go by unnoticed until too late for the primary operation. I have had the patient thoroughly etherized while I have been talking to you, and put in the lithotomy position. Early yesterday morning she took a full dose of oil, and this morning one grain of opium in order to restrain the bowels from further action. To avoid ether-vomiting she has eaten a very light breakfast.

While the assistants keep the vulva on the stretch I begin by shaving off the hair around the rent, and then pass two fingers into the bowel in order to smooth out the overlying rugous vagina. Next, with a curved pair of scissors, I trim the rectal edges of the rent, and snip off from its vaginal surface a thin paring of mucous membrane. This trimming is continued for an inch and a half up the posterior wall of the vagina, and then the sides of the perineal rent are denuded for a space a little broader and longer than the cicatrix of the original perinæum. On account of the vascularity of these parts and the valveless veins I prefer the half-crushing action of the scissors to the clean cut of the knife. Close to the lower edge of the raw surface two small arteries are spurting little streams of blood, but I shall not tie them lest the ligatures should act as foreign bodies and prevent union. By nipping each with a *serre-fine* I stay the bleeding. These little clip-springs will be found to be of great service in this operation. I have nipped the skin off both of the sides, and the wound is now ready to be closed, but before doing so let me carefully sponge every part of the bleeding surface to see whether any portion of mucous membrane or of skin has escaped the scissors. I see that all the little ridges of mucous membrane have been snipped off, and now I am ready to pass in the tures.

A sharply-curved needle held in the jaws of a needle-holder, and armed with silver wire (to avoid the constant threading of the needle with the wire I have passed a fine silk thread through the eye of the needle, and tied a half knot in it. In making my stitches I pass the end of the wire through the loop of the thread, and simply bend it over), is entered nearly half an inch below the lower angle of the wound in the left buttock on a level with the *lower* margin of the anus. By my finger in the rectum I pilot this needle through the recto-vaginal septum, so that by one sweep it completely girds the rectal rent and emerges at a corresponding point of the skin on the right buttock. This suture was first devised by Dr. Emmet, and a very important one it is whenever the sphincter ani is torn through or a limited portion of the recto-vaginal septum is involved. In passing let me enjoin upon you this advice: Whatever the degree of laceration, and whatever the nature of the operation, namely, whether primary or secondary, *the point of entrance and of exit of the first suture should always be fully half an inch below the lowest angle of the wound.* The perinæum proper I shall now close by five other metallic sutures. The cutaneous points of these sutures should be an inch from the margin of the rent, and each suture should pass through the vaginal mucous membrane very close to the edge of the raw surface. After carefully sponging away the blood I pass the ends of the lowest suture through the hole in the handle of the forceps, and while drawing upon them firmly push the latter down upon the skin. The adjuster being removed a perforated shot is slipped over the ends of the wire. This is next seized in the jaws of the compressor, and after being firmly pushed home is clamped. Each suture is in like manner secured by a single shot, and the free ends of the wire clipped off. Some operators only twist the ends of wire, but I always clamp with shot.

The operation is now ended, but before removing our patient to her bed let me empty her bladder. While withdrawing the catheter I keep my finger closely applied to its mouth so that the few drops of urine retained within it shall not escape and trickle over the wound. I also fold up a soft napkin, put it between her knees, and bind them together. I used to advise the employment of a self-retaining catheter in these cases, but it produced in one instance such a severe attack of cystitis by being allowed to remain in longer than proper that I have never recommended its use since. *So I tell you, in view of this possible accident, never to employ the self-retaining catheter, but to have the water carefully drawn twice or thrice daily. This can be done without unbinding the knees, namely, by flexing the knees and thighs upon the abdomen, the woman being upon her back, and so introducing the catheter.* Our patient's bowels must be kept locked up. Enough opium to ease the uncomfortable tension of the sutures, say one grain every four to six hours,

will be enough. If she is annoyed by painful flatus which does not yield to teaspoonful doses of the fluid extract of valerian, a flexible catheter should be carefully introduced into the rectum. On the seventh or eighth day I shall cut and remove every suture except the rectal one. On the morning of the ninth day four ounces of warm olive-oil will be slowly injected into the rectum, followed two hours later by a soap-water enema. Should hardened feces over-distend the rectum the nurse must break them up either by her finger, a hair-pin, or the handle of a spoon. When the medicine has operated I will remove the last suture.

After the bowels have been thoroughly opened they should be again locked up for four or five days more, and then be daily kept open by a mild aperient. The patient should have her knees bound together, and stay in bed for at least two weeks, and for a week longer should not go out of her room. During this latter time she should walk about but little, and keep her knees close together. Should a fistulous opening remain, fuming nitric acid should be applied, and the sides should be coaptated with sutures.

DIVISION OF THE TENDO ACHILLIS IN FRACTURE OF THE LOWER THIRD OF THE FEMUR; A CASE OF T FRACTURE.

BY M. A. MORRIS, M. D. HARV., CHARLESTOWN.

IN fractures of the leg where there is a tendency of the superior end of the lower fragment to override the upper one, and in fractures and dislocations about the ankle-joint when it becomes difficult or impossible to place and retain the fractured parts in position, owing to contraction and rigidity of the muscles of the calf, division of the tendo Achillis has been recommended, and excellent results from that procedure have been reported. In fractures of the lower third of the femur, various methods have been adopted for correcting the tendency of the upper end of the lower fragment to tilt out of position and backwards into the popliteal space, such as flexing the limb and placing it on a double inclined plane, etc. It seems to be pretty generally conceded that treatment in the straight position gives the best results in fractures of the thigh, for if the limb be placed in the flexed position there is a greater liability to trouble from ankylosis, which results in so many cases of fracture, particularly when situated near the knee-joint; and, again, it is impossible to keep up a proper amount of extension in the flexed position. When the fracture is in the lower third of the bone and near the condyles, the upper end of the lower fragment is apt to be drawn backward, making it difficult and sometimes impossible to keep the ends of the bones in apposition, as the writer has found from expe-

rience. In one case, which was treated in the straight position by competent surgeons, tilting backward of the lower fragment took place, and the result was delayed union, with protracted confinement to bed, and a firm ankylosis which it required a long time to recover from.

Another case was also slow to recover, and when the splints were finally removed a large, irregular callus could be felt just above the popliteal space.

None of the authors, so far as we have been able to learn, recommend tenotomy of the tendo Achillis in such cases except Bryant, who says:¹ "I have taught this method for the last two years, but have had only one opportunity of testing its value." The case here reported seems to have been a proper one for the trial of this method.

The subject was a man aged forty, of delicate constitution, who had suffered in early life from a disease of the left knee-joint, which left the head of the tibia dislocated somewhat outwards and backwards on the condyles of the femur, but good use of the joint was regained. About four years ago he sustained a fracture of both bones of the same leg, which made it shorter than its fellow. Two years ago, while returning from his place of business, he fell on the icy sidewalk and fractured the femur of the same side. The bone was broken obliquely, the line of fracture extending upwards and backwards two and a half or three inches from its articular end. There was also a longitudinal fracture separating the condyles, which could be freely moved and felt to grate against each other; there was considerable shortening, but little swelling about the joint. The muscles of the thigh were soft and flabby, but notwithstanding this, when extension was made and the limb put in position, the upper ends of the lower fragments projected backwards, and could not be kept in position, on account of the traction of the gastrocnemius muscle.

Owing to the facts that this limb was already shorter than the other and that the patient would be very liable to have an ankylosed knee-joint, with considerable additional shortening, it was deemed best to place the limb in the straight position, and to divide the tendo Achillis, in order to paralyze the gastrocnemius. Under ether, the tendon was divided and the tendency to displacement overcome. The limb was placed on a Macintyre's splint, and extension applied in the usual way by sticking-plaster straps bandaged to the leg and attached to a transverse foot-piece, from which swung a weight over a pulley at the foot of the bed. Counter-extension was made by elevating the foot of the bed; a cold-water dressing was applied over the joint, which began to swell a little, when an ice-bag was applied and the swelling subsided. At the end of eight weeks the patient was up, and a month later was able to move round, and soon could flex the knee almost to a right angle. The amount of shortening was about half an inch.

¹ Pract. of Surgery, page 867.

A fracture of the femur is a comparatively rare accident, and when it does occur is liable to lead to grave joint trouble and ankylosis. Hamilton says (page 431): "More fortunate results than these may, indeed, be hoped for, inasmuch as they have occasionally been noticed, but they cannot fairly be expected. In a majority of cases such accidents have demanded, either immediately or at a later period, amputation."

Bryant says (page 866): "These cases are serious on account of the joint complication, for some stiffness of the joint generally follows, but not always."

That we did not have more swelling of the joint in this case appears rather singular. The only reasons we should suggest for its absence are the following: the synovial membrane and parts about the joint may have been so lacerated as to allow the escape of the fluids secreted into the cellular tissue outside, which absorbed them as fast as formed; or the ice-bag may have prevented it.

It would appear to us there can be no objection to division of the tendo Achillis in such cases as those mentioned above. Its advantages are quite evident. The limb can be treated in the most favorable and comfortable position, and the bones placed in the best position for union, thereby accelerating it and lessening the liability to shortening, protracted confinement to bed, and ankylosis.

FRACTURE OF THE PATELLA.

BY WILBUR P. MORGAN, M. D., BALTIMORE, MARYLAND.

MARCH 30, 1876, I was called to see Mrs. McG. for the first time. She was a small, delicate woman, weighing about one hundred pounds, twenty-seven years old, married, and the mother of two children. She lived in a small street in a healthy location in this city. I found her sitting on a lounge, nervous and anxious, suffering from the effects of a fall. Loss of power of motion being complained of, I examined and found complete horizontal fracture of the right patella, the bone being neatly divided into two equal fragments. The fracture was caused by the knee striking the rim of a basket which stood in the way when she fell. I temporarily dressed the fracture by the application of laths, laterally and posteriorly, until the primary irritation and swelling subsided.

April 2d. Mrs. McG. remained upon the lounge until to-day, when I removed the primary bandage and applied the starched apparatus. I cut the binder's boards to fit perfectly the shape of the leg, and sufficiently long to extend from the instep to the upper third of the femur upon the inside and the trochanter upon the outside of the leg. The boards, thoroughly softened, were then adapted closely to the leg, care

being taken to prevent anything like constriction of the parts in the application of the bandages.

April 3d. The bandage has hardened, and fits the limb like an elastic stocking. The patient has been sitting up on the lounge all day. Eats her full allowance of her every-day food, and complains only of the irksomeness of her position. Her secretions and excretions are natural.

April 13th. I have seen the patient every other day since the last record, the case giving me some anxiety because the patient began to *walk* about the lower floor of the house the day after I applied the starched bandage, namely, the fifth day after the accident, and she has been going through the same anti-traditional *régime* every day since. There has been no unpleasant symptom arising therefrom, and upon close observation I discovered that nature knew better what was good for the patient than the surgeon. The close adjustment of the apparatus kept the limb immovably extended; there was no muscular action, and could be none. The quadriceps, instead of contracting, lay quietly in its case of bandage, and gravitation, acting more perfectly than a Malgaigne hook, allowed the upper fragment of the patella to fall into contact with the lower fragment, which was carefully supported by an extra turn of bandage. From time to time I opened the bandage at the knee, and was more than pleased to see the perfect apposition in which the fragments lay. As the bandage had become loosened from atrophy of the muscles and soft parts I reapplied it, and she immediately walked across the floor. Except for the halt in the gait, no one would suppose that she had so lately received so severe an injury.

April 20th. I found Mrs. McG. at the wash-tub, where she had been all the morning. As there was no unfavorable symptom present I allowed her to pursue her own line of action, although I was certain it was the first time on record that a patient with a fractured patella had ever washed and wrung out clothes on the twenty-second day after such an accident.

Of course the question arises, What was the result of such treatment? May 10th, 15th, 19th, and 24th I removed the bandage for ten minutes and made flexion; there was a little stiffness for the first day or two. After that I could flex the knee as far as I thought advisable.

May 31st, I removed the outside board and cut down the other to a slight support, allowing a little motion. She is to take off the splint, and exercise the knee every day for a time without any support. Her health is perfect. The patient being naturally thin the shape of the bones is easily seen beneath the skin. The general form of the fractured patella is the same as its uninjured fellow, its circumference being slightly greater. Its horizontal diameter is one sixteenth of an inch greater, and the perpendicular diameter is a scant quarter of an inch longer. The action of the joint is perfect, the patient suffering no in

convenience of any kind, except that at times in descending a step she is apt to relapse into the habit, contracted when the leg was in splints, of stopping and putting that foot first, an action now unnecessary.

July 12, 1877. I to-day examined the patella and found it of the same dimensions as reported last year, and the action of the joint perfect. I think there is cartilaginous union.

RECENT PROGRESS IN GENITO-URINARY SURGERY.

BY THOMAS B. CURTIS, M. D.

Urinary Mucus. — Méhu¹ shows that urine contains no mucin, and that the name mucus, as generally applied, is a misnomer. What is usually called mucus is a visible deposit, occurring either in the form of a suspended cloud or in that of a more or less thick stratum, and consisting, in health, of vesical and other epithelium (urethral, vaginal, etc.), with occasional crystals (uric acid, urates, oxalate of lime); in disease, white corpuscles, blood-disks, spermatozoa, fungi (vibriones), renal epithelium, casts, phosphates, etc., may be found. The chief ingredient of the so-called mucus, however, is pus, accompanied by *serin* and *pyin*. The latter substance, like mucin, is precipitated by acetic acid, but the precipitate is not redissolved by an excess of mineral acid, as is the case with the precipitate of mucin. The urine contains under no circumstances any substance presenting the characteristics of mucin as described by Scherer.

Decomposition of Urine. — Important experimental investigations have been made of late upon this subject. Dr. Bastian had for some time maintained the assertion that the decomposition of urine with formation of organisms could be made to occur under circumstances which precluded both the survival of preëxisting organisms or germs, and the penetration of organisms from without. In other words, he maintained that spontaneous generation took place. M. Pasteur² showed that in a correctly performed experiment three conditions must be fulfilled: first, the urine to be experimented upon must be purified by adequate boiling; secondly, the liquor potassæ added must be similarly purified; thirdly, the flasks used must be purified by heat (*flambés*) and guarded from contamination. When these conditions are fulfilled the urine *never* becomes decomposed, and organisms *never* appear in it. Dr. Bastian having neglected to purify his flasks, a fallacy was shown to exist which utterly invalidated all his experiments as regards the attempted demonstration of the putrescibility of uncontaminated urine.

Experiments of a novel character were made recently by P. Caze-

¹ Journal de Pharmacie et de Chimie, February, 1877, page 106.

² Comptes rendus de l'Académie des Sciences, July 23, 1877.

neuve and Ch. Livon,¹ with a view to elucidating the conditions under which urine is liable to undergo decomposition. A ligature was thrown around the prepuce of a dog, and urine was allowed to accumulate in the bladder during five hours, after which the dog was sacrificed and opened, and the ureters and urethra were tied. The bladder was then removed and kept exposed to the air during many days at various temperatures ranging from 80° to 122° F. The experiment was repeated several times. In no case did organisms make their appearance in the contained urine, whatever its original reaction, unless the bladder had been perforated.

M. Musculus² showed that the so-called mucus contained in the ammoniacal, ropy urine derived from cases of chronic cystitis yields, by precipitation with alcohol and desiccation, a soluble ferment, which has the property of bringing about the chemical change whereby urea and water combine to form carbonate of ammonia. This dried ferment, dissolved in urine, rapidly sets up the ammoniacal decomposition of the latter. We must therefore admit, said Musculus, the correctness of the idea formerly entertained that the vesical mucus acts as a ferment. The ferment of urea, he added, has none of the characteristics of organized or formed ferments. It, on the contrary, resembles closely the soluble ferments, or diastases.

Pasteur and Joubert,³ having repeated the experiments of Musculus, admit the existence of a soluble ferment capable of changing urea into carbonate of ammonia. They assert, however, that the ammoniacal change of urine or of solutions containing urea is invariably accompanied by the presence of organisms, and that normal urine remains acid and free from decomposition so long as it does not contain bacteria. They are therefore of opinion that the soluble ferment of Musculus is a product of the organisms, these being indispensable for its formation.

M. Berthelot⁴ takes a similar view of the urea ferment, and shows the analogy existing between this soluble ferment secreted by urinary organisms and the soluble ferment which is produced by the yeast-plant, and which has the property of causing the inversion of cane-sugar.

From the foregoing experimental evidence the conclusion may be drawn that the ammoniacal decomposition of urine cannot take place without either the bacterial contamination of the urine or the admixture of the soluble ferment artificially prepared from previously contaminated and decomposed urine. In either case, actual or preëxisting bacterial contamination is an indispensable condition of the ammoniacal change. Therefore the decomposition of urine within the bladder must always be due to the introduction of bacteria or germs from without.

¹ *Comptes rendus de l'Académie des Sciences*, September, 1877. *Gazette hebdomadaire*, September 27, 1877, page 625.

² *JOURNAL*, January 14, 1877, page 11. *Archiv der Physiologie*, xii. 214.

³ *Journal de Pharmacie et de Chimie*, September, 1876, page 206.

⁴ *Ibid*, page 208.

The ammoniacal decomposition of urine occurring within the body is held to be an important factor in certain diseased states of the urinary organs. With regard, however, to the proper management of cases in which the ammoniacal change is liable to take place, opinions and practice vary considerably.

Thus, in paralytic retention of the urine, Mr. Jonathan Hutchinson¹ thinks that there is much doubt as to whether the usual practice of relieving the bladder by the catheter is judicious, so constantly does inflammation of the bladder supervene after the use of instruments has been instituted. He inclines to adopt the plan of allowing the bladder to fill and overflow of itself.

It has, however, been suggested² by Traube, Niemeyer, and many others that in cases where the catheter is frequently used the decomposition of previously healthy urine is actually caused by the mechanical introduction on the catheter itself of germs of bacteria, and can with almost absolute certainty be prevented by proper antiseptic precautions.

The subject of ammoniacal decomposition and its relations to cystitis came up before the Pathological Society of New York.³ Dr. Janeway expressed the opinion that hospital patients were more liable to cystitis than others for the reason that the urinals were not apt to be thoroughly cleansed, and consequently that there was more danger of bacteria finding their way up the urinary tract. Especially was this the case when the penis was allowed to soak for any length of time in a urinal. Dr. Seguin concurred in this opinion, and was convinced that with care in keeping catheters and urinary utensils clean, even in cases of paraplegia, cystitis could be prevented for an almost indefinite period.

The damage liable to result under certain circumstances from bacterial contamination of urine within the bladder does not seem to be limited to the production or exasperation of cystitis. The view has been maintained⁴ that the bacterial decomposition could extend upwards through the ureters into the pelves, and even into the tubuli of the kidneys, thereby setting up a severe form of disease called *pyelo-nephritis parasitica* (Klebs). Similar views have been expressed by Dickinson⁵ in relation to the so-called "surgical kidney" and the resulting febrile disturbance, which he proposes to call *uriseptic* fever.

For the prevention of all these evils (cystitis, pyelo-nephritis, uriseptic fever, etc.) various measures, both preventive and curative, have been suggested. Measures of prophylaxis, already alluded to, consist

¹ D. Campbell Black. *Functional Diseases of the Urinary Organs*. London. 1875. Page 26.

² *British and Foreign Medico-Chirurgical Review*, July, 1877, page 97. Ebstein, in *Ziemssen's Cyclopædia* (American translation), vol. xv., pages 569 and 576.

³ *New York Medical Record*, October 6, 1877, page 636.

⁴ *Ziemssen's Cyclopædia* (American translation), vol. xv., page 569.

⁵ *The Lancet*, 1873, vol. i., page 342.

in avoiding the introduction of bacteria in or upon catheters or other instruments. This end is said to be attainable by scrupulous cleanliness, and through the purification of instruments by means of the efficient use of antiseptic agencies; in other words, by applying, in the management of the distended bladder, precautions similar to those considered necessary in cases of spinal abscess.

The restoration of the normal acidity of the urine, together with freedom from organisms, has been sought in a variety of ways, but often with doubtful results. A certain measure of success has been claimed for various internal remedies. Benzoic acid, administered in daily doses of about thirty grains, during one or two weeks, seems to have produced the desired results in the hands of Professor Gosselin and A. Robin.¹

Salicylic acid, when internally administered, is eliminated by the kidneys, partly unchanged and partly transformed into salicin and salicylic acid.² This drug has been tried in cases of vesical catarrh by Fürbringer,³ who states that under its influence when given internally in comparatively small doses (fifteen to thirty grains) the causes and results of the ammoniacal fermentation of the urine disappear. The production of pus from the urinary mucous membrane is, however, not prevented. Dr. Celli⁴ bears similar testimony to the utility of salicylic acid in cases of vesical catarrh.

Senator,⁵ on the other hand, having tested the antiseptic action of salicin internally administered in one recent and two chronic cases of cystitis, found that the ammoniacal condition of the urine was unaffected by its use. Senator's own experience is in favor of the treatment of vesical catarrh by the balsams, especially by balsam of Peru.

Those who may feel tempted to try salicylic acid in diseases of the urinary organs may be glad to know beforehand that, according to Professor Gubler,⁶ this drug exerts a decided action upon the kidneys, which in cases of renal disease may go so far as to occasion diminution of urine and marked albuminuria. Dr. Bucquoy agrees with Professor Gubler upon this point, and queries whether certain sudden deaths of patients who had been taking salicylic acid might not be due to uræmia. The drug is therefore probably not so harmless as had been supposed.

Besides internal remedies, various antiseptic agents, injected in solution into the bladder, have been advocated and largely tried, with a

¹ Comptes rendus de l'Académie des Sciences, January, 1874.

² Byasson. Société de Thérapeutique, October 10, 1877. Gazette hebdomadaire, October 19, 1877, page 672.

³ Berliner klinische Wochenschrift, No. 19, 1875. Archives générales de Médecine, August, 1875.

⁴ Il Morgagni. 1876. Revue des Sciences médicales. Paris. January 15, 1877.

⁵ Berliner klinische Wochenschrift, No. 14, 1877. Medical Times and Gazette, August 4, 1877.

⁶ Société de Thérapeutique, October 10, 1877. Gazette hebdomadaire, October 19, 1877.

view to bringing the action of germicides to bear upon the organisms contaminating the contents of the inflamed bladder.

Carbolic acid so used does not yield good results, says Dr. Van Buren.¹ It cannot be used in sufficient strength in the bladder, says Dr. R. F. Weir,² to test its power as a germicide, since a two per cent. solution is necessary to kill bacteria. Moreover, the researches of Musculus, alluded to above, have shown that the properties of the soluble urea ferment are not impaired by the admixture of carbolic acid in any strength.

Borax dissolved in warm water (fifteen to twenty grains to the ounce) is a favorite vesical injection for cases of chronic catarrh. Sir H. Thompson, Van Buren and Keyes, and R. F. Weir all recommend it for this purpose. M. Dumas³ having shown that borax has in a marked degree the peculiar property of checking the action of all the soluble ferments, we should expect it to exert a favorable influence in diminishing or arresting the ammoniacal fermentation of urine, the latter being occasioned, as was stated above, by a soluble ferment.

Constant irrigation of the bladder with warm water has also been used with benefit in chronic cystitis, with the result of restoring the acidity of the urine and allaying the inflammation and irritability of the bladder. "It is well known," says Dr. Ellis,⁴ "that in cystitis, sooner or later, the products of inflammation are liable to decompose in the bladder, and that, as a consequence, the urine becomes ammoniacal, and, in turn, by its irritating properties, increases the inflammation." With a view to breaking this vicious circle, Dr. Ellis advises the complete removal of the products of inflammation, as well as of the urine itself, before either have had time to undergo decomposition. Intermitent irrigation often proving ineffectual, it seemed desirable to try the effect of a constant current of warm water through the bladder. This was done with success by means of apparatus consisting of a double-current catheter, rubber tubing, and a vessel.

It has been shown, as already said, that the penetration of organisms into the bladder is an indispensable condition, without which the ammoniacal decomposition of urine within the body cannot take place. Considerable stress has, moreover, been laid upon the evil consequences which are liable to result from the bacterial contamination of urine within the bladder. Evidence is, however, not wanting to show that organisms can occasionally obtain access to the interior of the bladder, and even establish themselves there for long periods of time without the production of serious consequences to the patient. M. du Cazal⁵ pub-

¹ Van Buren and Keyes. *Diseases of the Genito-Urinary Organs*, 1874, page 198.

² *The Hypertrophied Prostate*. American Clinical Lectures. New York. 1876. Page 243.

³ Schützenberger. *Les Fermentations*. Paris. 1873. Page 236.

⁴ *JOURNAL*, April 5, 1877, page 393.

⁵ *Gazette hebdomadaire*, November 21, 1876, page 740.

lishes a paper, with several cases, the object of which is to show that organisms can exist in a bladder containing habitually acid urine without the urine becoming alkaline, and without the production of any noteworthy disturbance of the urinary organs. He says that bacteria, when introduced into a healthy bladder, are soon evacuated without producing any alteration of the urine; but that when chronic cystitis exists they then establish a permanent foothold within the bladder, being continuously reproduced. The author of this report can confirm some of the statements of Du Cazal, having now under observation a patient whose freshly passed urine is always slightly turbid, owing to the presence of organisms. These comprise filamentous bacteria, in the form of threads and snarls and more or less active rods. The urine is generally neutral or alkaline, occasionally feebly acid, but never ammoniacal. At intervals of several days or a week a thick, white discharge, composed of agglomerated crystals of triple phosphate, is passed at the close of micturition. This was the only symptom complained of by the patient, who was able to retain his urine *ad libitum*.

It seems, therefore, as if certain favoring conditions were necessary to enable bacteria to become domiciled within the urinary organs and to exert their full powers for evil. These conditions, without which the bacterial contamination of the urine seems comparatively harmless, appear to consist in stagnation of the urine within the bladder, together with certain alterations of the urine itself, namely, alkalinity or diminished acidity, high specific gravity due to concentration, and the admixture of pus, blood, or albumen. When all these conditions coexist, as is not unfrequently the case, then the penetration or introduction of organisms into the bladder not unfrequently constitutes a serious complication of the original disease.

The Treatment of Cystitis by Milk Diet. — Dr. George Johnson¹ calls attention to the beneficial influence of an exclusive milk diet in the treatment of some forms of cystitis. In one of the cases reported by him, a severe cystitis of two years' duration was rapidly and completely cured without any other treatment being employed. The milk may be taken cold or tepid, not more than a pint at a time, lest indigestion be caused. Some adults will take as much as a gallon daily. With some the milk agrees better if boiled, and then taken cold or tepid. If so rich in cream as to disagree, it may be partially skimmed. Dr. Johnson prefers unskimmed milk as having less tendency than skimmed milk to cause constipation. When the vesical irritation and catarrh have passed away, and the urine has regained its natural character, a gradual and cautious return may be made to the ordinary diet.

"If," says Dr. Johnson, "I might venture to give a hint to my surgical colleagues and friends, I should say that an exclusively milk diet would probably be found very suitable for most patients during the first

¹ The Lancet, December 16, 1876, page 847.

few days after the operation of lithotripsy, the object being, of course, to lessen as much as possible the inflammation and catarrh resulting from the mechanical irritation of the mucous membrane of the bladder. I have recently seen two cases in which the vesical irritation and catarrh resulting from a stone in the bladder were much mitigated by the milk diet, the patients being thereby brought into a more favorable condition to undergo successfully, the one the operation of lithotomy, the other that of lithotripsy."

Dr. Donkin¹ also advocates the use of a milk diet in certain inflammatory affections of the urinary organs. He, however, has a decided preference for skimmed milk, which has a higher specific gravity than unskimmed milk, is proportionately richer in casein and salts, and is more powerfully diuretic. Constipation resulting from its use is a sign that the treatment agrees, and can be obviated by judicious management. Skimmed milk, on account of its diuretic property, is very useful in the treatment of Bright's disease, especially when complicated by dropsy. Many cases occur, says Dr. Donkin, in which it is necessary to begin with doses of a wineglassful, or even less, and gradually to increase the quantity.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

OCTOBER 27, 1877. Eighty-one members were present, the president, DR C. D. HOMANS, in the chair.

Pneumono-Dynamics. — DR. G. M. GARLAND delivered an address² to the society on this subject, which he summarized as follows: —

I have shown clinically and experimentally, —

(1.) That the letter S curve of flatness (in pleuritic effusion) was first accurately described and traced through its various modifications by Prof. Calvin Ellis, of Boston.

(2.) That the letter S curve of flatness corresponds in shape to the lower border of the lung, and in position to the line of apposition between the lower border of the lung and the upper border of effusion.

(3.) That the letter S curve can be traced only in the erect position, and when the play of the lung is not hampered by adhesions, and that its persistence throughout the various stages of an effusion indicates the absence of adhesions in the lower part of the lung at least.

(4.) That the letter S curve is pathognomonic of a fluid effusion in the pleural cavity, but that it is impossible to judge from any variations in the curve as to the nature of the fluid present.

(5.) That the dull triangle, which I have described, corresponds to the pos-

¹ The Lancet, December 30, 1876, page 921.

² Soon to be published by the author in the form of a monograph.

terior inferior part of the lung, and that this portion of the lung is not, in the erect position, separated from the chest wall by effusion until the amount of fluid has become relatively very large.

(6.) That a recognition of the dull triangle is very important for the detection of the curve of flatness, especially in cases of hydro-thorax, when the neglect of this region has led to the general but erroneous idea that the surface of the transudation is horizontal in that class of cases.

(7.) That an effusion does not immediately intrude between the lung and the lateral chest wall, but that such intrusion occurs last of all, whatever be the position of the patient.

(8.) That a pleuritic exudation does not compress the lung in the manner universally taught, but that, on the contrary, the effusion exerts a negative pressure by virtue of its weight.

(9.) That the lower part of the lung does not become first compressed and then plunged into the fluid beneath, but that the entire lung contracts symmetrically throughout.

(10.) That the lung does not, properly speaking, swim upon an effusion, but that, by virtue of its retractility, it supports the entire body of the effusion, together with the diaphragm, until the weight of the fluid exceeds the lifting force of the lung.

(11.) That the position and shape which the lung assumes when associated with an effusion are determined by the balance between the weight of the fluid and the elasticity of the lung.

(12.) That the position and shape which the effusion assumes are determined by the varying degrees of retractility in different parts of the lung, and by the position of the patient, complications of course being left out of consideration.

(13.) That the excess of weight of an effusion is free to act according to its specific gravity.

(14.) That the diaphragm does not bag down until the weight of the effusion exceeds the lifting force of the lung, and the same holds good for obliteration of the intercostal spaces.

(15.) That the heart, mediastinum, etc., are not pushed out of place by an effusion, whether of air or fluid, but that those parts are drawn over by the opposing lung. Enormous effusions may, of course, increase the displacement.

(16.) That friction sounds in the early stage of pleurisy are not interrupted by the effusion separating the lateral pleural surfaces, but that they cease because the respiratory muscles of the affected side are weakened and unable to cause sufficient motion for the production of those sounds.

(17.) That the negative pressure of the lung favors absorption *into* the pleural cavity at the end of expiration.

(18.) That the action of the intercostal muscles favors absorption *out* of the pleural cavity at the inception of inspiration.

(19.) That the negative pressure of the lung favors the diastolic repletion of the heart, as shown by Marey and others, and that impairment of the retractility of the lung must therefore be accompanied by symptoms of imperfect heart supply, such as cardiac irregularity of action, diminished tension in arteries, and venous stagnation, as suggested by Dr. T. B. Curtis.

Dr. Garland regarded some of the points in this summary as original with himself, while others were merely demonstrated, as he thought, in an original and conclusive manner.

Anal Speculum. — DR. JOHN P. ORDWAY showed a new anal speculum, of which the accompanying cut is a representation, which he considered, with a few improvements, would commend itself to the profession as superior to all others now in use. The tube is three inches long, three quarters of an inch in diameter, perfectly straight, with a flange or bell-mouth. A longitudinal section of the tube, beginning at the distal end and extending to within an inch of the flange, is cut away, leaving a fenestra two inches long and about half an inch wide. The wooden obturator is so well fitted that with care in the withdrawal very little if any of the mucous membrane or abnormal growths is caught in the fenestra. The instrument being of the same diameter throughout does not dilate the sphincter unduly.



Most anal specula enlarge towards their proximal ends, thus preventing a proper view of the rectum. The unbroken circumference of the tube for about an inch also commends this instrument. Dr. Ordway stated that the instrument was the invention of Dr. Squier, who had been guided somewhat by his personal experience as a sufferer and by suggestions from Dr. Ordway.

Internal Strangulation. — DR. BARNES presented the specimen with the following history: —

W. B., twenty-eight years old, with a good family history, was attacked with severe pain in the abdomen on the morning of October 14th, without previous symptoms or cause, so far as could be learned. The bowels had moved freely the day before. When seen, soon after the beginning of his illness, the entire abdomen was painful and tender. Morphine was administered subcutaneously, and gave relief until evening, when he took an opium pill, which was soon followed by vomiting. He passed a restless night.

October 15th. The pulse was accelerated and the temperature raised half a degree. There was some tympanites, with increased pain and tenderness.

October 16th. The severity of the symptoms was augmented, but there was no vomiting. Dr. Clark, in consultation, advised local depletion in addition to the opium and stimulants he was then taking, but he sank until death ensued, about nine o'clock in the evening, fifty-six hours from the time he was first taken sick.

The patient presented the usual symptoms of peritonitis with obstruction of the bowels, except vomiting, which occurred once only, at the time mentioned after taking the opium pill. The bowels did not move, and no effort was made with that object, although a simple enema was ordered on the first day.

Autopsy twenty hours after death. There was about one pint of bloody serum in the peritoneal cavity. Three feet from the junction of the ileum with the cæcum were a number of convolutions of the small intestine, of a deep claret color and slightly adherent to the omentum and abdominal walls. At this point a diverticulum, four inches long, communicating with the intestine and united to the mesentery at the other extremity, formed with the intestine

a ring through which this portion of the ileum had protruded and become strangulated. The appendix vermiformis was normal in size and position. No further examination was made.

Hospital Inhaler. — DR. H. W. WILLIAMS showed an inhaler which was used for hospital purposes by Dr. Mackenzie, of London. It consisted of an earthen vessel with a tube to conduct air to the bottom, an elastic cap covering the opening, and a mouth-piece.

DR. LYMAN asked how it differed from an ordinary wide-mouthed flask with tube and mouth-piece.

DR. WILLIAMS said only, perhaps, in respect to its durability and cheapness.

DR. E. L. PARKS exhibited an instrument for deep injections into the urethra. It was made of a piece of elastic catheter, four inches long, surmounted by a flange to which a soft India-rubber tube was fastened, enabling the patient to make a more efficient use of astringent solutions.

DR. WEEKS reported the three following cases: —

Carcinoma Uteri unattended by Uterine Symptoms. — Mrs. S., aged forty-six, twice married without issue, was first seen by me in August, 1877. She had been failing about four months. From her previous history I learned that she had never suffered from uterine derangements, nor felt any of the pains that usually attend disease of that organ.

There was a large accumulation of ascitic fluid. The uterus was depressed, enlarged, and immovable. Paracentesis abdominis was performed and nine pounds of fluid were withdrawn, after which an induration was observed in the right inguinal region, also another in the epigastric region. The diagnosis was cancer of uterus and peritonæum.

The patient failed gradually until September 20th, when she died. In the mean time the fluid was withdrawn three times, and each time about the same quantity as at first.

At the autopsy cancerous disease of the uterus, left ovary, and peritonæum was found, yet during my attendance I had at no time observed any stomach derangement, nor was pain a prominent symptom. The bladder and bowels acted freely until the last.

Fibroid Tumor of the Uterus complicating Pregnancy. — October 24, 1877, I was called to attend Mrs. G., aged thirty-nine, first pregnancy, then in labor. I found that although the os uteri was well dilated and yielding, and the pains were strong, the head was not descending satisfactorily. I allowed the labor to progress naturally for eight or ten hours, when I became convinced that the delivery could not be accomplished unaided. I administered ether and proceeded to deliver with forceps. The head lay in the L. O. A. position. The forceps were easily applied, but the head could not be made to engage at the superior strait. After several ineffectual efforts I withdrew the forceps and introduced the hand to turn, when I found an interstitial fibroid tumor as large as the child's head, which lay wedged between the head and shoulders, thus preventing descent.

The child was delivered by podalic version. The tumor arrested the delivery of the head, which was accomplished only after much effort. The mother lived about thirty-six hours.

The autopsy revealed a tumor as above stated; also a rupture of the bladder, which, without doubt, was the cause of death.

Cirrhosis of the Liver. — The specimen presented was taken from the body of a man, aged forty years, who had for many years used stimulants of different kinds freely. He has, for four years or more, had diarrhœa, usually most troublesome at night.

One year ago I withdrew from the abdomen about ten quarts of fluid. At that time the edge of the liver descended about two inches below the border of the ribs, was very hard, and appeared enlarged. By the free use of scoparius the fluid was prevented from accumulating; still the patient did not regain much strength. After a few weeks' attendance he was, at his own request, permitted to care for himself, until, one year from the first tapping, I was called to withdraw the fluid a second time, and then again in a month. The patient survived the last operation only three days, dying from accumulation of fluid in pleural and pericardial sacs.

Notwithstanding that the liver was so completely disorganized, yet there was an absence of pain and distress in the stomach, also of hiccough and vomiting, symptoms which we are taught to look for in connection with disease of the liver. Jaundice appeared during the last few months.

Invalid's Bedstead. — An invalid's bedstead was exhibited by Mr. James Goodwin, the inventor, at the request of members who had found it serviceable. By means of a crank, which can be easily worked by an attendant, the patient can be placed in various positions without manual assistance. The sheets can be changed, the mattress turned, etc., without discomfort.

HOSPITAL HYGIENE.¹

THE writer of the Boylston Prize Essay of Harvard University, for 1876, has had abundant opportunity for the study of his subject in having had much practical experience as house surgeon at Bellevue Hospital, in being a member of the standing committee on hospitals of that admirable organization, the New York State Charities Aid Association, and in having spent a summer abroad for the purpose of investigating the subjects of training nurses and hospital construction.

The first chapter of the book before us is devoted to a very interesting history of hospitals. It appears that the Buddhists and the fire-worshippers, to whom all forms of life are sacred, were probably the first to establish infirmaries for the ill and injured of the poorer classes. The writer differs with other students of history in thinking that "hospitals for the sick poor did not exist to any extent, if at all," among the ancient Greeks and Romans; he holds that the *valetudinaria*, the sick rooms adjoining the temples, indeed the temples themselves converted into hospitals, were chiefly for the wealthy classes. Of course, this is a matter in which the silence of history forbids our forming an exact opinion; but if the statement is true that much of the knowledge of

¹ *Hospitals: Their History, Organization, and Construction.* By W. GILL WYLIE, M. D. New York: D. Appleton & Co. Pp. 240.

medicine possessed by the Buddhists was acquired through the advantages for study afforded by their hospitals (page 55), it is difficult to see where the great physicians of Greece and Rome got their knowledge, unless from similar sources. During the first sixteen centuries of the Christian era the development of the hospital idea is attributed chiefly to the feeling of brotherly love so fostered by the Church of Rome. The invasion of Europe by the Moors is not even mentioned, and the same educational importance, therefore, is not attached to that great event as is insisted upon by Lecky, Desmaisons, and others. The early hospitals were entirely in the hands of the ecclesiastics, and were constructed chiefly on the ground of convenience of administration. Still, the leading men knew that something better was desirable and practicable, even in the middle of the sixteenth century; and this is clearly shown in Sir Thomas More's description of the hospital in Utopia, which was to be so well arranged, with trained nurses and expert physicians, in the suburbs of the city, and with ample provision for the classification of diseases, that people when ill would be only too glad to go there. In the Thirty Years' War some attempts were made at a sanitary service; but almost nothing of importance was really done until the eighteenth century, which is especially marked by Captain Cook's discovery that seamen can keep their health in long voyages, by John Howard's inquiries into the lazarettos and prisons of Europe, with the consequent reforms, and by the practical application of Boerhaave's teachings to the uses of daily life by his pupils, Sir John Pringle and Dr. Brocklesby. The work of Sir John Pringle marks the advance of the eighteenth century, as that of Florence Nightingale marks the present century; and Dr. John Jones, one of the founders of the New York Hospital, who visited Europe in 1772, published an intelligent account of hospital requirements, thereby introducing Pringle's views in this country. The committee composed of Laplace, Lavoisier, and others in 1786 reproduced the same ideas in France also. But Brocklesby deserves the credit of putting into practice the best theory of the day, and his work is so striking and important that we give a short sketch of it here, especially as it is barely mentioned in the essay.

In 1758, when the wounded were sent from France to the Isle of Wight, he built an open, one-story shed for a hospital, large enough for one hundred and twenty patients. He found that "remarkably fewer died, though treated with the same medicine and the same general regimen, than died anywhere else." In 1760, he constructed another shed hospital in the same place for forty patients, during a fever epidemic. The mortality was very slight, and he says of it: "I candidly ascribe their fortunate escape more to the benefit of a pure, keen air they breathed therein every moment than to all the medicines they took every six hours or oftener." In 1761 and 1762 he got excellent results from similar "mansions for the sick," built of thatch and board, — at these times having several separate buildings. In 1762 he did not lose a single man by death during the encampment.

In the early part of the present century Rush and Bell in our country, and other equally eminent men in Europe, have done excellent work. Any one familiar with Bell's address on Hospital Hygiene in 1848, and the Massachusetts General Hospital, would hardly agree to the statement on page 43, that

previous to 1859 neither England nor the United States had a civil hospital that would compare favorably with the plan proposed by Dr. John Jones in 1773. In the latter half of this century, thus far, the essential advances in construction of hospitals have been, in the words of our author:—

(1.) That the hospital should be placed on a large area of ground, so that the pavilions can be widely separated from the administrative buildings and from one another.

(2.) That the wards should be *only one story* in height, and be ventilated by openings along the ridge of the roof.

(3.) That the ward-pavilions should be put up, not to remain for generations to come, but only so long as they are free from infection; and that, when once they are infected, they should be destroyed and replaced with entirely new structures.

The accomplishment of this desirable change in the construction of hospitals has been due to the lessons of the Crimean war, followed by the pavilion plan of Herbert, St. Thomas, and the Boston City Hospitals; and to the American civil war with its sanitary commission, and the Franco-Prussian war, of which the direct result was the barrack or one-story hospital. But these good results could not have been obtained without the years of patient labor by the sanitarians of the preceding years, nor until the masses had gained sufficient knowledge of this matter to coöperate to a certain extent.

Thus far, however, only a few of the one-story hospitals have been built. "The Roosevelt Hospital, opened in 1871, has one one-story pavilion to show as the influence of the experiences of the war; but New York city has had six other large new hospitals, all of which are massive, many-storied buildings, costing immense sums of money; and one of these, the last, is seven stories, and on a space of ground seventy by one hundred and seventy-five feet." The new wards of the two hospitals in Boston, those in Leipsic and Dresden, and the Rotherham, Berlin, and Philadelphia hospitals are commended as regards these points, and as being the only cited examples of the barrack system.

The remaining ten chapters — about one hundred and eighty pages — were written "hurriedly, during March;" they embrace a variety of subjects. The author has evidently availed himself of the modern literature of his subject, and gives a statement of the present position of our knowledge on all the important questions, from the relations between pauperism and hospitals and the value of appointments in them, over the whole ground of ventilating, draining, etc., to their use as educators of students. Although there is nothing which is not already familiar to us in this part of the essay, and although it calls to mind Lamartine's famous apology for a long letter that he had not time to write a short one, it will be of use to those who wish for the sort of facts which it contains; but what is most easily written is not always the most easily read.

The consideration of insane asylums was, by the terms of the prize, not to be included, but the author devotes a couple of pages to that subject. He says (page 179): "In this country most of our institutions are constructed on the massive, monumental style and managed on the economical, prison system, and there is still too much of the iron bars, dark cells, and strait-jackets of the old Bedlam. Besides, the medical attendance is scant and necessarily more or

less inefficient, and the nursing is wretched ; in fact, the nurses do not pretend to be anything more than keepers, and the class from which they are selected is the same as that from which keepers for criminals are derived. Uncommon brute force seems to be considered the most desirable quality to make a good nurse for an insane asylum." This accusation is so unfair and untrue that we feel it a duty to protest in the strongest terms against it. When the author adds (page 180), " Even in our best institutions for the insane it will be found that there are several hundred patients to each physician, and the nurses too few in number and not above the grade of household servants," it is evident that his sources of information were entirely misleading.

THE BOSTON DISPENSARY AND VENEREAL DISEASES.

WE have learned with regret that the authorities of the Boston Dispensary are much inclined to abolish the department of venereal diseases. The expenses of the institution have been so great that it is thought necessary to reduce them, and it is proposed to do so by suppressing this branch. We are sure that the profession will agree with us that such a course would be a serious misfortune to the community in many ways. Let us be understood as discussing this question quite independently of that of the abuse of medical charities. The trustees have no idea of closing the whole institution ; we therefore have to consider only whether they are wise in economizing at the expense of this department, and we can say confidently that they are not. There is an old-fashioned feeling in Boston that venereal disease is not a respectable thing to have to do with under any circumstances ; that the victims are suffering for their sins or those of their fathers, and that it is almost flying in the face of Providence to assist them. Barbarous and absurd as this view is, thus plainly stated, there is no doubt that it prevails extensively in minds of a certain order. Like other cruel superstitions it springs from ignorance. The well-meaning gentlemen who hold it forget that a large number of those afflicted with syphilis have contracted it blamelessly. Virtuous wives almost without number are suffering for the sins of their dissolute husbands, and bringing children into the world doomed to lives of suffering and disease. One of the chief purposes of the department is to treat these unfortunate ones, many of whom can be very materially benefited, for, in spite of the persistent nature of the disease, it is well known that in certain forms, at least, it is very amenable to treatment. We imagine that this movement may have been suggested by the number of cases of gonorrhœa, which of late appears to have been unusually prevalent among the rough element. We own we do not see why one of these scamps should not be treated as readily as his brother who has had his nose bitten off in a drunken brawl ; but be that as it may, we protest against sacrificing the innocent sufferers by excluding them with these worthless offenders.

Another great objection to the proposed step is that, to our shame be it spoken, this is the only clinic for venereal diseases in the city of Boston. The disease itself is prevalent enough, but the Dispensary is the only institution that has utilized it for purposes of instruction. The loss of this clinic would be a most serious injury to medical education.

MEDICAL NOTES.

— The *Medical Examiner* states that Dr. Küstner (*Virchow's Archiv*, vi. 77) is of opinion that the streaks on the skin of the abdomen of pregnant women are not seated in the rete Malpighii, as most authors have assumed, but are due to a separation of the deeper layers of the cutis and of the subcutaneous cellular tissue. The epidermis is not torn through, but tightly stretched and rendered transparent, so that the more deeply seated colored tissues gleam through it. The distention ceases suddenly when delivery takes place, the separated layers come together again, and the epidermis is thrown into folds which often project considerably for some days after birth. These folds are the commencement of the transverse markings by which old streaks may be distinguished from new ones. When the folds appear the epidermis loses its transparency, — indeed, it becomes more opaque than the surrounding unaltered portions; it also loses moisture and looks glossy, especially when light falls upon it obliquely; the difference in appearance between these marks and the surrounding skin may be compared with that between the finger and the adjacent epidermis. This glossiness of the streaks, however, is sometimes absent, especially in young women pregnant for the second or third time, in whom the interval between each pregnancy has been short. The breadth of the streaks does not depend upon the thickness of the abdominal integuments; in some cases pigment becomes deposited in the streaks soon after delivery, and as a general rule the chloasma uterinum is more marked after delivery than during pregnancy.

— Of Churchill's tincture of iodine, of which the formula is: —

R̄ Iodinii puri	3 iiss.
Potassii iodidi	3 ss.
Spiritus rectificati	f 3 xij.
Alcohol	f 3 iv.

Solve.

Dr. Parvin, in *The American Practitioner* for November, 1877, says: After employing this tincture for thirteen years, I know no single agent used in the local treatment of uterine disorders at all equal to it. It may be used as a stimulant, alterative, counter-irritant, caustic, and as a hæmostatic, and for the purpose of exciting absorption of hypertrophied tissue. Its hæmostatic properties are of especial utility in the treatment of hæmorrhagic endometritis, and after the use of the curette or forceps in the removal of the smaller intra-uterine growths, hypertrophies of the glandular and vascular elements of the lining membrane.

— In consequence of the departure of members of the medical profession for the seat of war there is a great scarcity of doctors in Russia, and epidemics which are raging are accompanied with a high mortality. At St. Petersburg the death-rate during the last quarter is reported as high as thirty-five per one thousand, at Moscow thirty-eight, and in the southern towns from forty to forty-five.

— Professor Hebra has been elevated to the *Ritterstand* of the Austrian empire as *Ritter des ordens der eisernen Krone, Classe III.*

— The value of respectable professional standing is enforced in an editorial in *The Medical Record*, which gives an instance of its importance in a case where a physician appeared as a witness in court. In a recent case of this sort in New York city a medical gentleman, "who openly boasted that he did not care to become a member of any medical society, was severely handled by the attorney of the opposite side, who made it appear to the jury that the gentleman in question was not regular, and that his testimony should be taken with the allowance given to all suspicious witnesses. The result was what might have been anticipated. There is no argument, even in a court of law, against respectable connection and high standing in the profession, while a suspicion of the contrary is always a handle for an adversary; the moral of all of which is that it is safer to be respectable, even if it does incur the necessity of belonging to some recognized medical organization." We would remind our contemporary that more than membership is necessary for respectability.

— We take the following *verbatim* from *The Canada Lancet*. Comment would be superfluous.

"NOVEL EXPERIMENT. — Dr. Fuller, of Montreal, has conceived the novel idea of trephining out portions of the skull of an idiotic child of two years old, to allow the expansion of the brain, and thereby afford the faculties an opportunity of developing, which had not been previously the case. Since the operation there has been a marked improvement in the mental condition, and a paralysis of the arm, with general coldness of extremities, has been quite remedied. The faculties of intelligence have brightened up considerably, and, encouraged thereby, it is Dr. Fuller's intention to take out another piece of skull and note the result."

OBITUARY.

DR. BENONI CARPENTER, of Pawtucket, Rhode Island, was stricken down in the midst of apparent health by apoplexy, November 20th, and died without intervening consciousness November 22, 1877. Dr. Carpenter was born in Rehoboth, Massachusetts, March 12, 1805; he graduated at Brown University in 1829, a member of the first class graduated under the presidency of the late Dr. Francis Wayland. In 1832 he graduated at the Jefferson Medical College, Philadelphia, and in 1833 commenced the practice of his profession in Seekonk, Massachusetts. In 1837 he removed to Pawtucket and at once entered upon a full practice.

In the year 1862 he was commissioned surgeon of the twelfth Rhode Island infantry, a nine months regiment. At the expiration of its term of service, he was transferred to the fourteenth regiment of heavy artillery, serving in that capacity till the close of the war.

In 1865 he was appointed medical director of the department of Carrollton, Louisiana, and served in that position till 1867, at which time President Johnson disbanded the colored regiments constituting that department. He then returned to his home in Pawtucket, but never resumed active practice.

He was elected member of the Rhode Island house of representatives in 1867, and of the Rhode Island senate in 1868. He was appointed prison in-

spector of Rhode Island in 1869, and continued in office till the present year. He was for many years an active and efficient member of the school committee of Pawtucket, evincing great interest in the proper culture of the young. He was intensely loyal to his profession, jealous of her rights, ever seeking the promotion of her interests in her multiform relations. A despiser of shams and their exponents, he was one of the pioneers who moved to eliminate the latter from the corporate ranks of the Massachusetts Medical Society, of which he was an efficient member, and for many years a councilor. In this effort he suffered the obloquy of personal friends, the effect of which seemed to inspire him with still greater enthusiasm to accomplish the removal of that which he believed was compromising science and the honor and reputation of his profession. Courage, therefore, to do right as he saw the right, regardless of the effect upon himself, constituted a distinguishing feature of his life.

Nor was this feature of character limited to professional application; it was prominent in every sphere of life. For more than forty years he proclaimed his hostility to the use of alcohol as a beverage or for "side-board" purposes in unmeasured terms, both from the platform and in private councils; and though this course aroused personal antagonisms, and curtailed his professional business, yet he continued to proclaim his convictions with a degree of self-abnegation rarely witnessed, but truly refreshing in these days when *policy* is so prone to rule the hour.

His funeral obsequies, with those of his wife, whose decease antedated his own but a few days, were solemnized in the Congregational church, where hundreds assembled to pay the last tribute of love and respect to one who in life had sought to make the world better for his having lived in it, and who had succeeded in his varied relations in establishing confidence in his purity of purpose.

J. R. BRONSON.

ATTLEBORO, MASS., *November 24, 1877.*

ABUSE OF MEDICAL CHARITIES: A REMEDY.

MESSRS. EDITORS, — In this, as in all civilized communities, every man, woman, and child has, or may have for the asking, a regular medical attendant.

Let any one, therefore, who wishes the advantages of a hospital, dispensary, or other medical charity, present a card from his or her regular medical attendant stating that, in his opinion, the bearer is worthy and makes the application with his approval. This requirement will inflict no hardship on the applicant; besides, a little effort will make him value his privilege the more highly.

On presentation of such a card, let the official in charge stamp it with the seal of his institution, and the number of weeks or months it will hold good for the applicant. Let the official also clip off one of the corners of the card.

The applicant may thus get the attendance desired, — with the supervision of the regular attendant, if necessary.

Let all other applications for in or out patients not accompanied by such a card be refused by all the institutions, excepting, of course, urgent cases.

If, after having been received at any hospital or charity, the applicant for any reason goes to another institution, his stamped and clipped card will at once expose him ; and after having his name recorded at the new place as one of the irregulars, and having another corner of his card clipped off, he may be properly cautioned, referred back to the first institution, and dismissed.

The second clipping of the card will expose to the first institution such and similar unfaithfulness, as the card should be presented at every visit.

When the card-time is out (or before, for sufficient cause) the recipient, with the assent of his regular physician and on giving up his card, may receive a new card and go to any other institution if either party wishes a change.

A quarterly interchange among the several charities of printed alphabetical lists of the names of all new applicants and the physicians recommending them would soon reveal impositions if any were attempted.

Blank cards of proper size and style might be kept at all the charities, and furnished to physicians and applicants as convenience required.

The above plan seems perfectly feasible and just to all parties. If the managers of the several medical charities earnestly desire to assist the worthy poor and to prevent imposition, let them try it. The superintendents of the several institutions could easily arrange the details, which may be exceedingly simple, and put the plan into operation without delay. Try it !

MEDICUS.



THE ABUSE OF MEDICAL CHARITIES.

MESSRS. EDITORS, — I have read with much interest the controversy between your JOURNAL and Dr. Rogers. I am very loth to enter any argument which will cause too much publicity, but as I have had nearly eight years' experience in practicing our profession in a town of about twelve thousand (12,000) inhabitants, where no public charity is given to the sick, I feel a right to express my opinion, which coincides with every one of my brethren here, so far as I can learn. I think that a public charitable medical institution, even in as small a town as ours, to say nothing about the larger cities, would be a blessing, not only to those who are deserving of charity, but to the physicians in practice. Any one who is small-minded enough to cheat the physician by going to a place where advice and medicine can be obtained gratis, when he or she is well able to pay a fee, is just the one never to pay when he or she happens to ask a private consultation. My experience has been one of hard labor in obtaining my fees from just such persons, and after the small percentage was obtained by close following and oftentimes by the aid of legal force, it was hardly enough to pay for the trouble. Any physician who enters the practice without some little property to aid him is worthy of pity if he is to depend upon this class of practice for his support. There are rare instances where a young practitioner has stepped into a good field without the help of money, but I have seen so many cases of ill success, and continue to see them, that I think it is safe to conclude that the views of the JOURNAL are the nearest correct.

I am yours, with respect,

H. F. BORDEN, M. D.

BROCKTON, November 24, 1877.

LETTER FROM NEW YORK.

MESSRS. EDITORS, — It has been announced that the connection existing between the College of Physicians and Surgeons and Columbia College will soon be severed by the board of trustees of the latter institution. The College of Physicians and Surgeons was chartered in March, 1807, by the regents of the University of the State of New York, pursuant to an act of the legislature passed March, 1791. The first course of lectures began in November, 1807, and the first class, consisting of eight, was graduated in 1811. Before the Revolution, namely, in 1768, the Medical School of New York was organized in connection with King's, now Columbia, College through the exertions of Drs. Peter Middleton and Samuel Bard, but the war coming on soon after, many of the professors were called away to more urgent duty, and the school was broken up. After the return of peace the college was reorganized. The present school grew out of this, and was a department of Columbia College until 1813. In 1860 it again became a department of Columbia, although it had its own board of trustees, who managed the school entirely independent of the college, made appointments to the staff of instructors, or rather confirmed those the faculty chose, Columbia having not the slightest voice in the matter of instruction or graduation; in fact it was a department of the college only in name. Columbia is now a wealthy corporation, and pecuniary aid has been sought for on the part of the Medical School. The desire of more control in the management of the school has often been expressed by the trustees of the college, and as the latter were unwilling to give aid unless they had some control over the course of study and requirements for graduation, the connection has proved unsatisfactory to both parties. So after seventeen years the college has determined to sever its nominal connection with the school. It is unfortunate that the two could not have been united under one head. The fact is becoming more apparent every day that the friends of a more thorough course of medical study for those preparing themselves for a professional life have nothing to hope from the present medical schools; there is still to be the same wrangling over hospital appointments, and the same bidding for students. It is rumored that the trustees of Columbia College propose to organize a medical department of their own. If this is done, it will be placed upon a proper basis, and will rank among the best schools in the country. Columbia is abundantly able to do this. It has an income from ground-rents of two hundred and sixty thousand dollars a year, and this income is increasing. New York has better facilities for clinical instruction than any other American city, and it should possess one of the best schools. It is a remarkable fact that not a school in the city has an endowment fund worth speaking of, notwithstanding that one college has been for a number of years making strenuous efforts to accumulate such a fund. Can the cause of their want of success be that the general profession and the public are unwilling to give their money to aid a private enterprise?

Shortly after the opening of the present session the faculty of the College of Physicians and Surgeons voted to deny admission to a colored student, on the ground that his presence in the lecture-room might be objectionable to the

other students; at least, this is the ground that the friends of the college allege as the reason for the action taken. As far as I have heard any expression of opinion in regard to this action of the faculty, it is one of disapprobation. It is certainly reviving issues that were supposed to have been settled, and cannot fail to bring the college into unpleasant notoriety. I am informed that it has pleased the Southern students, but it will injure the college in many sections of the country. Upon the fact becoming known, quite a number of letters were received by the rejected student from prominent medical schools, offering to receive him as a student, among them one of the Philadelphia schools. He has entered the medical department of the University of Michigan.

The county medical society has just appointed a new committee, namely, one on ethics. What it will amount to remains to be seen. There has always been a class of men whose whole time seems to be devoted to finding out what is wrong in the deportment of their brother practitioners, — whether they live up to the code of ethics, — whose highest ambition appears to be to “run” societies and pick motes out of their brothers’ eyes. If the control of the committee is given to men of this class, not much good will be accomplished. The code of ethics is more strictly construed here than in other sections of the country, in some points. Physicians are not allowed to put their cards in the medical journals, as seems to be the custom in Boston, while in other points they are more lax. I do not believe that the spirit of the code is often broken, and the offense would have to be very great to obtain even a vote of censure from the society.

New York city does not suffer for the want of physicians. According to the Medical Register there are one thousand one hundred and ninety-eight regular practitioners, one hundred and fifty-six homœopathic, eight hundred and ninety-six who are embraced under the title of “miscellaneous,” whatever that means. More than one half of the regular practitioners in the State are located in New York city. Seventy-nine physicians have left the city during the past year, and thirty-two have died. One hundred and seven new names have been added to the directory, so we manage to keep up our number.

The report of the Commissioners of Charities and Correction for the year ending December 31, 1876, has been issued. There are three general hospitals under the charge of the commissioners, namely, Bellevue, Charity, and the Homœopathic. Patients are sent to the different hospitals as follows: all acute medical and surgical cases go to Bellevue; subacute and chronic medical and surgical cases are equally divided, as far as possible, between Charity and the Homœopathic, unless a patient manifests a preference. According to the above plan there were treated 5116 patients at Bellevue, 1570 of which were either ambulance or police cases; 8621 at Charity, and 3077 at the Homœopathic. The death-rate at Bellevue was 12.37 per cent., at Charity 8.48, and at the Homœopathic 6.07. The high death-rate at Bellevue is due to the kind of cases admitted. The difference between Charity and the Homœopathic is apparently greatly in favor of the latter institution, but a careful analysis of the two tables indicates but little difference. It is to be regretted that a table of all diseases treated, with the result, is not given, for without statistics of this kind the statements are valueless. I find that among the deaths are

fifty-five still-born children and twelve premature births. Now these should not have been included in the mortality table of Charity; deducting these reduces the number of deaths to 622 and the rate to 7.10 per cent. Charity is the maternity hospital of the department, and lying-in cases are not admitted elsewhere; deaths connected with this division should be excluded in the comparison. According to rule, the Homœopathic Hospital should have received about as many cases as Charity did, but we find it treated only a little over one third as many. A large percentage of deaths at Charity is due to diseases necessarily fatal, and in which treatment is useless. An approximation to the death-rate in diseases curable, in the two hospitals, in the absence of any other data, may be obtained by deducting the number of deaths from incurable diseases occurring in the two institutions, and then getting the percentage. Adopting this plan, we find that there were five deaths from aneurism, twenty-six from cancer, eighteen from marasmus, seventy-three from chronic Bright's disease, twenty-nine from old age, fourteen incident to confinement, and twelve to atelectasis, making one hundred and seventy-seven to be subtracted from the list of deaths at Charity, and reducing the percentage of deaths to 5.25. From the Homœopathic table of deaths deduct sixteen from Bright's disease, five from cancer, one from old age, and five from general paresis, making twenty-seven, and then getting the percentage we find that it amounts to 5.21. It should have been stated that the number of deaths was taken also from the number of admissions in both cases. I understand that the homœopathic medical journals have been referring to this apparent low death-rate at the Homœopathic Hospital in comparison with that at Charity as a proof of better results obtained by the plan pursued at the former institution. The tables given by both hospitals do not prove anything. We hope in the next report that a table of diseases will be given, and the results, whether the patients were discharged cured or relieved, or whether they died. It has been the custom in the report of Charity Hospital to record a few post-mortem examinations. The Homœopathic staff have incorporated in their report this year four cases with the post-mortem examinations.

CASE No. I. "Chronic pleurisy and hepatic abscess. . . . Physical examination. Dullness over the entire right side from clavicle to Poupart's ligament. Heart displaced; apex tilted upwards, striking the thoracic walls at fifth intercostal space and to the *right* of the sternum. . . . The right pleural cavity was found full of pus."

CASE No. IV. "Addison's disease. . . . His skin had a deep, almost olive-green, bronzed appearance. . . . There was severe hacking cough, with bloated limbs and other symptoms of general phthisis. On examination after death the kidneys and supra-renal capsules were found to be in a normal condition."

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING NOVEMBER 17, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	466	22.49	27.46
Philadelphia	850,856	268	16.38	22.88
Brooklyn	527,830	186	18.32	24.31
Chicago	420,000	124	15.35	20.41
Boston	363,940	130	18.57	23.39
Providence	103,000	40	20.19	18.34
Worcester	52,977	23	22.58	22.00
Lowell	53,678	15	14.53	22.21
Cambridge	51,572	9	9.08	20.54
Fall River	50,372	10	10.32	22.04
Lawrence	37,626			23.32
Lynn	34,524	13	19.57	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	7	13.61	23.57

BOOKS AND PAMPHLETS RECEIVED. — Illustrations of Clinical Surgery. By Jonathan Hutchinson, F. R. C. S. Fasciculus IX., Plates XXXII.-XXXV. Philadelphia: Lindsay and Blakiston. (For sale by A. Williams & Co.)

A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M. D. Enlarged and adapted to the United States Pharmacopœia. By Frank Woodbrey, M. D. Philadelphia: Henry C. Lea. 1877. (From A. Williams & Co.)

Points in the Diagnosis of Hepatic Affections. By E. G. Janeway, M. D. American Clinical Lectures. New York: G. P. Putnam's Sons. 1877.

Pyæmia or Septicæmia. By B. A. Watson, M. D. (Reprinted from the New York Medical Journal.)

The Physician's Self-Copying Prescription Book. Wendell A. Anderson, M. D. Chicago: Hadley Brothers. 1877.

The Physician's Daily Pocket Record and Visiting List. Philadelphia: Office of Medical and Surgical Reporter.

Proteus or Unity in Nature. By Charles Bland Radcliffe, M. D. Second Edition. London: Macmillan & Co. 1877. (From the Publishers.)

The Transactions of the Indiana State Medical Society. Indianapolis. 1877.

Transactions of the International Medical Congress of Philadelphia. 1876. Edited by John Ashhurst, Jr., M. D. (For sale by A. Williams & Co.)

A Treatise on Gonorrhœa and Syphilis. By Silas Durkee, M. D. Sixth Edition. With eight colored Illustrations. Philadelphia: Lindsay and Blakiston. 1877. (For sale by A. Williams & Co.)

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, DECEMBER 6, 1877. — NO. 23.

THE CASE OF THE LATE DR. HENRY PRATT, OF LANESBORO'.

BY FRANK K. PADDOCK, M. D., PITTSFIELD.

DR. HENRY PRATT was born September 28, 1820, in Lanesboro'. He lived at home until he was twenty-one years old, spending his time in acquiring an education and attending to the duties of the farm. When he arrived at the age of twenty-one he chose the profession of medicine for his life-work, and became the student of Dr. Griswold, of Lanesboro'. About one year afterward he went to Pittsfield and completed his studies under the direction of Dr. Henry Childs, graduating at the Berkshire Medical College in November, 1845. He first began the practice of medicine in Nassau, N. Y., where he remained a short time, and then removed to Becket in this State, where he spent two years. From Becket he removed to Ravenna, Ohio, where he soon acquired a large and lucrative practice in both surgery and medicine. At this place he became affected with the malaria of the region, and ultimately had chills and fever, attended with congestion of the lungs, and a long illness ensued, which determined him, after a residence of ten years in Ohio, to return to Lanesboro' for a time, in order to regain his health. He effected the change in the spring of 1857, with the happy result of complete restoration to health, and for the last twenty years his residence has remained unchanged. In 1862 he became a member of the Massachusetts Medical Society, and has since filled various offices in this district society.

Dr. Pratt's last illness was occasioned by a fall which he received in the latter part of last January as he was leaving the house of one of his patients. He slipped upon an icy door-step, and fell heavily, striking the back part of the right hip upon the edge of the stone step. The shock was quite severe, and he felt stunned for a moment, but he soon was able to get up and walk to his horse. When he got home in the evening he found upon examination that he had suffered a contusion where he had struck upon the stone, and that the skin was ecchymosed for quite a distance up the back. The injury was not, however, sufficiently severe to prevent him from attending to his daily routine of

practice. On the 8th of February, ten days after the fall, he came to my office for advice, and Dr. Adams and I examined him. We found a bruise upon the right hip, about midway between the sacrum and the trochanter major, and underneath was a large fluctuating mass, into which we made an incision about an inch in length, evacuating six or eight ounces of bloody serum. There was present very slight tenderness in the region of the swelling, with some induration remaining after the removal of the effused serum. There was no tenderness, pain, nor lameness of the back. We advised the doctor to go home and keep quiet for a time, until the parts had recovered from the injury, but he expressed his determination to go that afternoon to Cheshire to see a patient, and in fact attempted to do this, but he felt so poorly that he finally gave it up, drove home, and went to bed. I did not hear from him again for ten days. Then I found suppuration established and healthy, laudable pus discharging from the incision. An examination of the wound with the probe proved that the suppurating cavity extended longitudinally up the back underneath the skin and fascia about six inches, or nearly to the crest of the ilium, and laterally about four inches from the spinous processes outward. He was confined to his bed; had no pain; but his temperature was 103° F., pulse 90 to 100. No appetite, some nausea. Bowels and kidneys acting quite naturally. Through March and April he continued about the same, the wound discharging freely a thin, watery pus, without unusual odor. In the latter part of April, the incision through the skin having partially healed, so as to prevent the free escape of pus, with the advice and assistance of Dr. Smith, of Pittsfield, I gave him ether and enlarged the incision to about four inches, and made a thorough examination of the cavity of the abscess, without, however, discovering any diseased bone or inflamed periosteum. Subsequently to this the cavity was injected with a solution of carbolic acid, diluted tincture of iodine, and weak solution of bromine, and he improved in general health, so that he drove out, and finally in June visited patients. He came to Pittsfield, and was about for several weeks. Exertion fatigued him very much, and he was obliged now and then to lie down and rest while making his round of visits. In the latter part of June, after getting very much fatigued one day, he had a severe attack of sciatica in the left leg, which, however, yielded in a few days to anodyne treatment, but he did not get sufficiently strong or gain enough vigor to go about again, although he sat up and walked round the house more or less. Toward the end of September he had another severe attack of neuralgia in the left sciatic nerve, and he reluctantly consented to take ether again and have the cavity of the abscess entirely exposed by an incision about six inches in length, extending from the original opening obliquely upward to its upper extremity, over the spine. This exploration had been advised

and urged before, but the doctor resolutely declined to have it done until now. Accordingly the operation was performed on the 9th of October. The cavity of the abscess was found to be in a very healthy state, but there was an entire absence of granulation. At the upper end of the abscess, opposite the first lumbar vertebra, to the right of the spinous process, pus was discharged freely through two openings, into each of which the probe passed two inches above and below the transverse process, alongside of the body of the vertebra, and came in contact with bare bone. A few days previous to this an indurated lump appeared on the left side of the abdomen, just inside the superior spinous process of the ilium. This hard mass increased in size, extended upward toward the ribs and outward around the left lumbar region in the direction of the spine. Finally deep fluctuation was detected, and on the 24th of October an incision was made through the abdominal wall, just above the crest of the ilium, and twenty-two ounces of fœtid, dark, watery pus were evacuated. The probe, carried through the incision, extended six inches into the cavity before reaching the bottom. For nine months the doctor had been failing, excepting for two or three weeks in June. He had become very much emaciated, and required gradually increasing doses of anodynes to secure sleep. Ferruginous and bitter tonics had been administered as constantly and regularly as he would take them, but he failed more rapidly after the abdominal abscess was opened, and died on the 9th of November.

On the following day a post-mortem examination was made in the presence of Drs. Smith, Roberts, and Adams, of Pittsfield, and Dr. William Paddock, of Lanesboro', physicians who had been associated with me in the treatment of the case.

We found a large psoas abscess on the left side of the abdominal cavity, occupying the left pelvic cavity, extending under Poupart's ligament down to the insertion of the psoas muscle. On the right side was a lumbar abscess, which extended from the right sacro-iliac synchondrosis between the peritonæum and the lumbar muscles up to a level of the second lumbar vertebra, and discharged through two openings on the right side of the two lower vertebræ, communicating with the abscess upon the back. There was no communication between the abscesses of the two sides. There was adhesion of the peritoneal surfaces over the lower part of the descending colon, and an attempt at ulceration at one point.

Both the abscesses evidently were caused by disease of the lower lumbar vertebra, which was in a state of necrosis. The transverse, articular, and spinous processes were in many places bare of periosteum. In others the periosteum was easily stripped off, and the intervertebral substance, both above and below, was easily detached. The sawed surface of the body, when divided, was dark in color, and had the ap-

pearance of dead bone. The articular processes of the third and fourth lumbar vertebræ and the transverse processes of the fourth were carious. The spinous processes of the third and fourth lumbar and of the three upper sacral vertebræ were also carious. We supposed that the carious condition of these processes was caused by the irritation of the pus contained in the lumbar abscess, which came in contact with them.

The doctor never had any pain in his back, and when he was told that the vertebræ were undoubtedly diseased remarked that he could not believe it possible, as he had never felt any distress in his spine.



THE METRIC SYSTEM IN MEDICINE AND PHARMACY.¹

BY T. B. CURTIS, M. D.

WE are all sufficiently familiar, in a general way, with the advantages claimed for the metric system of weights and measures. These, briefly enumerated, are: uniformity; simplicity; the decimal character; the fact that the various units have definite and readily apprehended relations to each other; a nomenclature which is self-defining and expressive of values; and, finally, security, the base being unalterable.

We also know the objections which have been raised against the proposed introduction of the metric system, and we have probably all been struck by the trivial and irrelevant character of several of them. The only objection which appears to me to possess any weight at all is one upon which our opponents habitually lay but little stress; yet it must be admitted that it has great force and deserves very careful consideration. I refer to the trouble and labor unavoidably attending any change of weights and measures. Routine, proceeding from traditions and habits of long standing and of numerous and complex ramifications, is firmly established. Is it worth our while to try to overcome the inertia of this routine? What are the inducements for us, whose main interest in the question is connected with the handling of drugs, to take a leading part in the proposed reform? In answer to this question I intend to pass in review, from the stand-point of the physician, certain advantages which can be claimed for the new system, and also to consider certain objections which have been brought forward by physicians against it.

First, it should be understood that the adoption of the metric system as used in Europe involves two separate and wholly independent innovations, consisting, primarily, in the substitution of a new system of weights and measures, with its nomenclature, for our present system; and, secondly, in the substitution of gravimetric methods for the system, partly gravimetric and partly volumetric, now in use.

¹ Read before the Suffolk District Medical Society, March 31, 1877.

With regard, in the first place, to the new system of weights and measures called the metric, this system recommends itself by several manifest merits. The advantage of uniformity with the usages established among physicians in other countries is self-evident. In Germany and in France, which are, of all countries in which the English language is not spoken, those whose medical literature is most valuable to us, the metric system is used. In England weights and measures of the same names as ours are used, but they have different values; moreover, the English method of dealing with liquids is somewhat different from ours. All German, French, and English pharmaceutical formulas have therefore to undergo a process of translation, involving not only different weights and measures, but different methods of handling liquids, before they can be rendered available for use in this country. The adoption of the metric system, then, would bring us into agreement with the majority of civilized countries, while now we agree with none.

The metric system offers another advantage in that it provides denominations of weight applicable to the smallest quantities which the physician or the pharmacist can be called upon to prescribe or dispense. The advances achieved in chemistry and in therapeutics have provided a number of powerful drugs of which the doses are so minute as to oblige us to have recourse to very small fractions of our smallest unit of weight. The grain, which was suitable for dealing with the less powerful drugs formerly in use, is far too large a unit for the alkaloids and glucosides which modern chemistry has added to our *materia medica*. For handling these the centigramme and the milligramme of the metric system are eminently suitable.

Perhaps, however, the greatest advantage of the metric system accrues from the decimal character of its divisions. Some mathematicians have, I believe, asserted, on what to most of us must seem somewhat transcendental grounds, that the decimal system offers in itself no real advantage; that it has no *raison d'être* based upon any intrinsic properties of numbers or upon any mental attributes of mankind. This might possibly be true had other systems of numeration than those with which we are familiar originally been adopted. As a fact, however, our arithmetic is decimal. We count by series of tens, and higher and higher powers of ten constitute successive series of units. Hence the facility of decimal arithmetical operations. In the metric system, of which the divisions also proceed by series of tens, we change from one denomination to another, multiplying or dividing by ten, by one hundred, etc., by simply moving the decimal point to the right or to the left.

Another important advantage growing out of the arithmetical simplicity of a decimal division of our weights and measures is the readiness with which we should be enabled to appreciate quantitative ratios

in our formulas and in the resulting pharmaceutical preparations. A few examples will suffice to make clear the difference in this respect between the old and the new system.

To illustrate, in the first place, the complexity and tediousness of the arithmetical processes involved in the use of our present method, and to show the difficulty of rapidly apprehending quantitative ratios, let us take the *mistura glycyrrhizæ composita*, or "brown mixture," of our Pharmacopœia. It contains the following ingredients: licorice, sugar, and gum arabic, of each \mathfrak{zss} .; of camphorated tincture of opium, $\mathfrak{f\mathfrak{z}ij}$.; of wine of antimony, $\mathfrak{f\mathfrak{z}i}$.; of spirits of nitrous ether, $\mathfrak{f\mathfrak{z}ss}$.; of water, $\mathfrak{f\mathfrak{z}xii}$. The dose for an adult is a tablespoonful, for a child two years old a teaspoonful. Now, what are we giving with these doses? I once took the trouble to make the calculations, and found that a tablespoonful, equaling five drachms, contained: (1) of paregoric about \mathfrak{mxxxv} ., which by another similar calculation I found was equivalent to gr. $\frac{1}{8}$ of opium; (2) of wine of antimony, $\mathfrak{m xviii}$., which yet another calculation showed to contain gr. $\frac{1}{4}$ of tartar emetic. The other ingredients, being of no consequence medicinally, need not be estimated. Now these calculations, which are indispensable if we wish to know how much opium and how much tartar emetic our patient is getting with his repeated spoonfuls of brown mixture, are quite troublesome to make, and the results are difficult to remember. A similar task has to be performed in magistral prescriptions, when, instead of making out the value of the single dose of a complex and voluminous preparation, we proceed from the single dose with a view to formulating a mixture or pilular mass which shall be taken by repeated single doses, and last a stated time.

To illustrate the simplicity of metric formulas, on the other hand, let us take the *liquor hydrargyri bichloridi*, or *liqueur de Van Swieten* of the French codex. This solution contains: of the bichloride of mercury 1 gramme, or part, or unit of weight; of rectified spirit, 100 grammes, or parts; of water, 900 grammes, or parts. The liquid consequently contains one thousandth of its weight of the bichloride, and 5 grammes, the approximated value of a teaspoonful, contain 5 milligrammes of the drug.

Fowler's solution of arsenite of potassium, as formulated in the French codex, contains: of arsenious acid, 5 grammes; of carbonate of potassium, 5 grammes; of distilled water, 500 grammes; of alcohol, 15 grammes. After certain manipulations, comprising boiling, water is added to replace that lost, so that the whole weighs exactly 500 grammes, and thus contains one hundredth of its weight of arsenious acid. Of course the value in arsenious acid of any quantity by weight of the liquid is easily recognized.

One more example: let us take a magistral formula, the *sirop de*

Gibert, or syrup of iodurated biniodide of mercury, a most valuable preparation. It contains: of the biniodide, 1 gramme; of iodide of potassium, 50 grammes; of water, 50 grammes, to which are added 2400 grammes of syrup of a certain specific gravity. The ratios involved are very simple, and we see at a glance, and remember with almost equal facility, that a tablespoon, holding 25 grammes of syrup, must contain one centigramme of the biniodide and 50 centigrammes of iodide of potassium. If now we should wish to formulate an analogous eight-ounce mixture we should find the necessary computations very tedious and difficult to perform accurately when in a hurry.

Our present system, then, is exceedingly complicated and difficult to manage in prescribing, in consequence of the absence of decimal divisions, and in consequence of the constant *changes of denomination* which result from processes of multiplication and division. One result, I believe, of this complexity of our system of weights and measures is the inordinate use in this country of *officinal*, in preference to *magistral*, or extemporaneous preparations. Many of our officinal remedies, to which we so largely resort, are complicated preparations, which have been elaborated at leisure by skillful and ingenious pharmacists, or by physicians of by-gone days, anterior to the time of rational therapeutics. These formulas, often embodying in one preparation such a number of active ingredients as to render it difficult or impossible to discriminate their effects upon the patient, are for the most part relics of an irrational and obsolete polypharmacy. Other analogous formulas are to be found scattered through text-books and treatises of theory and practice under the heading of "treatment." By many young physicians and students such formulas are copied out in memorandum-books, or learned by heart, and are used in a routine way, as if they represented simple drugs. Of course, when such habits of routine practice prevail, any advance in rational therapeutics is almost out of the question, and that self-education which should constantly be the chief object of our therapeutics, after the benefit which we hope to confer upon the patient, is rendered difficult or impossible. Judging from the almost entire absence of such therapeutical formulas in text-books and treatises devoted to the instruction of French and German students and physicians, little or no assistance of this kind seems to be needed by them. If, now, magistral preparations were more extensively used, as would undoubtedly be the case if our system of weights and measures were easier to manage, then comparatively simple formulas would be readily improvised to meet the varying exigencies of individual cases, the tendency to polypharmacy would be diminished, the study and practice of rational therapeutics would be facilitated, and last, not least, the extensive use of patent medicines by physicians, which is the opprobrium of the medical profession of this country, would be lessened.

The second innovation comprised in the adoption by physicians of the system used in Continental Europe is the use of *gravimetric methods only*, for liquids as well as for solids. This is not an indispensable feature of the metric system, since the latter affords volumetric measures, decimally divided and having definite relations to the metric weights, which might with advantage be substituted for our present incongruous fluid measures. This innovation is, moreover, one which threatens to offer considerable difficulties and to meet with great opposition among physicians. If, then, it should appear likely to prove impracticable to bring about this change we might for the present content ourselves with the simple substitution of metric weights *and measures* for those now in use.

But there can be little doubt that we shall in time generally recognize the intrinsic advantages of the gravimetric measurement of liquids, as well as the extrinsic advantage of conformity in this matter with European practice; and it may perhaps prove easier, if we are going to undertake any change in our system of weighing and measuring, to make it completely, once and for all.

The present state of the matter as regards the handling of liquids is as follows: while in England all solids are prescribed and dispensed by weight and all liquids by measurement, and while in all other countries solids and liquids alike are weighed, among us not only solids but also certain liquids, namely, acids, oils, honey, and chloroform, are ordered and dispensed by weight, other liquids being ordered by measurement.

What, now, will be the advantages and what the obstacles to the introduction of the gravimetric method for both solids and liquids? The first advantage to be looked for is conformity with the practice of all the nations which have adopted the metric system. The second and more important advantage lies in the greater accuracy in dispensing attainable by means of the gravimetric manipulation of liquids. Professor Maisch, after alluding to the frequent inaccuracy of the graduated measures now in use, to the difficulty of correctly reading the level of the liquid against the engraved scale, and to the additional uncertainties due to volatility and adhesion, says: "The greater convenience and correctness of weights have long since been recognized in the wholesale trade. Our Pharmacopœia even recognizes the correctness of this fact by having changed, in the last two revisions, all measures of the liquid acids, of chloroform, olive oil, and honey into weights. If these liquids are more conveniently and correctly handled by weight, why not likewise glycerine, syrups, tinctures, ethers, etc.?" He adds: "The dispensing of liquids by weight offers for all the reasons advanced by far greater accuracy than could be attained by measures."

Leaving, however, the facilitation of exact dispensing, which is a subject on which I am not qualified to express an opinion, I think there

can be little doubt about the greater accuracy of prescriptions in which the quantities of all the ingredients, liquid as well as solid, are expressed by weight. A solid dissolved is a liquid, whose density, and consequently whose exact bulk, we cannot readily ascertain. As Professor Maisch observes, solids dissolved in liquids add to the bulk of the latter. Moreover, certain liquids when mixed together contract, as is the case with alcohol or concentrated acids mixed with water. I think also that it is easier to recognize the ratio of a dissolved solid ingredient to its vehicle (whether the latter be water, syrup, or alcohol) when both are weighed than when the solids are weighed and the liquids measured, as in the *mistura glycyrrhizæ composita*, which was taken as an instance of our present way of dispensing.

The great difficulty which stands in the way of this innovation is that we have all contracted the habit of estimating liquids by measurement alone, and of remembering doses by bulk. We know for distilled water only the exact equivalence of our fluid measures in grammes; and unless we ascertain by experiment, or by calculation based on the knowledge of the specific gravity, the value in grammes of our present fluid measures (drachms and ounces) for every liquid, or at least for certain types of liquids, we shall have to treat all liquids by weight on the erroneous assumption that they have the same specific gravity as water.

The former solution of the difficulty is of course the correct one, and in due time we shall get to know all doses by weight, as we now know them by bulk. In furtherance of this end it is desirable that tables be constructed as soon as possible giving the value in grammes of the f3 or f̄3 of certain important liquid drugs (for example, *extract. ergot. fluid.*), as well as of certain types or categories of liquids, such as aqueous, alcoholic, and syrupy liquids. Future editions of the Dispensatory ought to give the corresponding values of every liquid by measurement and by weight in grammes.

But if, at present, instead of using metric measures of capacity for liquids, as has been proposed and is certainly feasible, we were to consider the fluid drachm of all liquids as equivalent to 3.69 grammes, this being the weight of one fluid drachm of distilled water, what would be the possible extent of the error involved? The inaccuracy of such a way of proceeding has been made a great "bugbear" by the opponents of the metric system. Lists of liquids of different densities have been gotten up, headed by ether, whose specific gravity is 0.728, and ending with chloroform, whose specific gravity is 1.490, water at 1.000, and syrups, from 1.310 to 1.320, coming between. The difference between the extreme specific gravities is as one to two, and a corresponding degree of inaccuracy in prescriptions has been predicted.

As a fact, however, neither ether nor chloroform is ever given in bulk or pure, unless it be by drops. Tinctures differ but slightly in

specific gravity from water; aqueous solutions vary from 1.000 upwards, syrups at 1.320 representing the maximum specific gravity. The heaviest fluids, namely, syrups, rarely contain powerful drugs, and are hardly ever given pure, being chiefly used for the purpose of imparting flavor. If, now, we should treat syrups as if of specific gravity 1.000, and assume the fluid drachm to weigh 3.69 grammes, the inaccuracy, as regards the amount of syrup alone, amounts to about twenty-five per cent.; but in mixtures, into which syrups rarely enter in greater amount than one fifth of the whole, the inaccuracy would amount to four or five per cent. only of the whole mixture.

Now this inaccuracy, which could easily be reduced to a much more insignificant error, if not altogether annulled, by making a slight allowance for liquids heavier than water, has been held up as an insuperable objection to the substitution of the gravimetric method for the volumetric measurement for liquids. It seems to me, however, that those who urge this objection are claiming for their therapeutical operations a degree of accuracy which is rarely or never realized in practice.

It has been shown most clearly by Professor Maisch and by other authorities that the system actually in use involves a considerable degree of inaccuracy in the *prescription* and in the *dispensing* of medicines. There is a further and still greater margin of inaccuracy in the *administration* of medicines, owing to the false estimates in vogue with regard to the value of spoonfuls and drops, in which forms our drugs finally reach the patient.

A tablespoon is commonly supposed to contain half an ounce; it really contains nearly six drachms, almost half as much again. A teaspoon, estimated to hold a fluid drachm, or sixty minims, really holds eighty minims, or one third as much again. A drop, supposed to be about equal to a minim, has values varying between a quarter of a minim and one minim and a quarter, the variation being as one to five! The number of drops to a fluid drachm is with some fluids as low as forty-four, and with others as high as two hundred and seventy-six, if counted from a minim measure; if counted from a bottle, on the other hand, some liquids give only forty-five drops to a fluid drachm, while others give as many as one hundred and eighty. For the same liquid the variation is often as two to three, according as the drops are counted from a bottle or from a minim measure. Thus a drachm of *tinctura opii* gives one hundred and forty-seven drops from a bottle and one hundred and six drops from a minim measure; while a drachm of *tinctura ferri chloridi* gives one hundred and six drops from a bottle and one hundred and fifty-one drops from a minim measure. Yet, notwithstanding the great inaccuracy of this mode of measurement, drops are everywhere used in the prescription of the most concentrated and powerful liquid remedies, — such as, among others, tinct. digit., tinct. bellad., tinct.

veratri viridis, tinct. aconiti radiceis, acid. hydrocyan. dilut., liquor potassii arsenitis, etc. The danger of such grossly inaccurate measurements is obviated by the simple expedient, universally adopted, of giving in every case small initial doses, which are gradually increased till the desired effect is attained, the final maximum dose in each case depending upon the quality of the drug and the susceptibility of the patient.

Thus we see that numerous causes of error beset our therapeutical operations in each of the necessary steps, as follows: (1.) In *prescriptions*, in consequence of the miscalculation of bulk when solids by weight and liquids by measurement are mixed. (2.) In *dispensing*, through the inaccuracy of graduates, the difficulty of reading correctly, volatility, adhesion, etc. (3.) In *administration*, in consequence of the prevailing erroneous estimates of spoonfuls and drops. I therefore venture to assert that the margin of inaccuracy is so great as to render insignificant a possible error of five per cent., due to the variations of specific gravity.

I believe, then, that the inaccuracy involved in neglecting, *for the present*, the differences of specific gravity of the various liquids would be more than compensated by the increase of accuracy which would accrue (after correction of our false estimates of the value of spoonfuls) from the substitution of the gravimetric handling of liquids for the mixed system, partly volumetric and partly gravimetric, now in use.

For all the reasons advanced I believe that the adoption by the medical profession of the metric system, as used in France, in Germany, and in many other countries, would be a most desirable consummation, and that it is expedient for us as physicians to make every effort to bring about this change.



TWO CASES OF OBSCURE DISEASE, WITH AUTOPSIES.¹

BY H. R. HOPKINS, M. D., BUFFALO, NEW YORK.

CASE I. I was called February 19th of the present year to see Mrs. P., aged sixty-three, a lady whom I had attended for nearly ten years. She complained of pains in the bones, loss of appetite, slight thirst, sluggish bowels, high-colored urine, increased heat, and restlessness. She was a person somewhat inclined to be indulgent in eating, and accustomed to little or no active exercise.

I saw nothing in the case which differed from her appearance on various former occasions, prescribed, and left, not expecting to call again unless sent for. I was summoned on the fourth day, and found my patient still in bed, a fact which she accounted for by stating that her stomach did not seem to get quite right. She had no appetite, was

¹ Read before the Medical Club, October 31, 1877.

thirsty, and had occasional vomiting and considerable pain, which she referred to the region of the liver. The bowels and kidneys seemed to be acting naturally.

From this time I made daily visits, and at the end of a week I noted that the condition of the stomach was not particularly changed, the attacks of pain were more severe, the site remaining the same, and that there was well-marked jaundice. Decided corpulence rendered physical examination of the abdominal viscera practically useless, but the hepatic region was somewhat tender on deep pressure. There was no abnormal heat, and the pulse stood daily at 80 per minute.

During the following three weeks I noted no marked change from the above condition, save an increased irritability of the stomach and a slight increase in the severity of the pain; the evacuations of the bladder and bowels showed the well-marked characteristics of jaundice.

In fact, from this time until her death, March 28th, no new symptoms appeared, the bowels moved quite regularly, and there was no diarrhoea at any time. The mind was clear and moderately active, the jaundice was intense, and the stomach would take only small quantities of the most bland of liquid foods. During the last fortnight anodynes were constantly required to give relief from pain, which was always referred to the region of the liver. Death was evidently due to asthenia, but hardly to inanition.

The autopsy was made by Dr. Bastow, under the observation of Drs. Buswell, Folwell, and myself.

The gall-bladder contained one hundred and eight gall-stones and a quantity of semi-fluid bile; its entire inner surface was the seat of ulceration, which extended along the evacuant ducts to the duodenum, and upwards to the pylorus. The ulcerated portions of the duodenum and pylorus were much thickened by interstitial material, and were surrounded by inflammatory deposits.

CASE II. Early in July last I was called to see Mrs. S., aged sixty-five, and found her anxious to be relieved from a pain which for some time had been in the habit of coming in her epigastrium, particularly if she ate any rather hearty food or allowed the bowels to become constipated, as they were rather inclined to do. From the absence of all constitutional symptoms the disease was thought to be a digestive trouble, and was treated accordingly. From that time until October 23d, when she died, I was in attendance, and observed a train of symptoms which followed very closely those seen in the case of Mrs. P. The differences in the cases will take less space to note than the agreements, and they were: The jaundice in Mrs. P. came on in the second week, and was marked and constant to the end. In Mrs. S. the jaundice appeared in the second month, and was not quite as marked in degree. The invasion in Mrs. P. was abrupt, and marked with considerable con-

stitutional disturbance. In Mrs. S. it was insidious, the patient being about the house for weeks. The pain in Mrs. P. was referred to the hepatic region; in Mrs. S. the seat of the pain was not well localized, but it would come in any part of the upper portion of the abdomen. The bowels in Mrs. S. were quite constipated, some form of laxative being used during the whole treatment; in Mrs. P. they gave little or no trouble. Aside from the above-mentioned points the two cases presented a very close parallelism, and the latter was constantly reminding me of the former.

On October 26th I made a post-mortem examination of Mrs. S., assisted by Dr. Folwell. We found cancer of the mesentery, with numerous metastatic deposits in the liver and spleen. The duodenum at the point of entrance of the ductus choledochus was embraced by a cancerous mass, whereby the calibre of the gut was almost, and that of the duct was entirely, obliterated.

These cases are of interest for various reasons. Fatal ulceration from gall-stones in the gall-bladder is not common, and the clinical history of such a case is a small but not unimportant addition to our stock of accurate knowledge, or, to speak more scientifically, to our stock of highly systematized facts. The same remarks will apply with equal force to cancer of the mesentery. Again, the cases are interesting in their similarity, and still more so in their diversity.

It is now easy to account for both the similarity and the diversity. The former would naturally result from the fact of the same tissues and functions being concerned in each case, while the latter corresponds to the difference in the processes at work in those tissues.

RECENT PROGRESS IN DERMATOLOGY.

BY JAMES C. WHITE, M. D.

Molluscum Contagiosum. — In a long article¹ upon this subject Dr. Kaposi, of Vienna, discusses the nature of all the varieties of this growth, excepting *m. fibrosum*, and presents his views in the following conclusions: —

(1.) The contagiousness of the so-called *molluscum contagiosum* has not yet been proved, and does not in his opinion actually exist. The name *m. contagiosum* should therefore be stricken from nomenclature.

(2.) The so-called *m. contagiosum* of Bateman and the (pock-like) *m. contagiosum* of recent authors are equivalent anatomically, and both belong to the sebaceous system: that of Bateman to the sebaceous gland especially, the pock-like one to the common opening of the sebaceous

¹ Vierteljahresschrift für Derm. und Syph., iv. Jahrg., 3 Heft.

and lanugo hair follicle in the beginning, and later to the gland lobules also.

(3.) For the latter reason the name adopted by Hebra, *molluscum sebaceum*, should be applied to both forms.

(4.) Although both kinds often occur together, yet they often also show themselves in preponderance or exclusively in one or the other clinical form, so that he prefers to recognize that of Bateman, representing the *stalggeschwülst*, *atheroma*, *sebaceous cyst*, under the name of *molluscum atheromatousum*, and to call the pock or wart like form *molluscum verrucosum*.

He regards the peculiar, large bodies found within them as epidermal cells with modified protoplasm, and states that the same cells are found in other growths.

Phosphorescent Sweat. — Professor Panceri, of Florence, communicates¹ to the medical society of that city the occurrence of phosphorescent sweat in a physician who was made ill after eating fish. He found by experimenting that patients, after eating the fat of Mediterranean fishes known to be phosphorescent, excreted a perspiration which was luminous in the dark. Another physician stated that he had observed the same phenomenon in patients with *miliaria* without knowing the cause.

Recent investigations by Dr. E. Pflüger² with phosphorescent fish show that the phenomenon never occurs while the fish is absolutely fresh. When the animal is preserved in a cool cellar, immersed in a three per cent. solution of common salt, the phosphorescence begins on the second evening about the cavities of the eyes, and slowly spreads over the whole surface, increasing daily until decomposition sets in, when it gradually ceases. It occurs only on surfaces exposed to the air. A fresh-water fish was cut in two pieces, and these were placed in separate vessels, in salt water. In one of them water from a vessel containing a phosphorescent sea-fish was sprinkled. This half after two or three days became phosphorescent, the other half remained absolutely dark. The matter scraped from the luminous surfaces, a whitish mucus, was found to contain numerous forms of *schizomycetes*. The phosphorescence is very faint, and can be perceived only by *retinæ* made sensitive by darkness. It has been detected in the urine as well as in the sweat, and seems, therefore, to depend upon the oxygenation of these living forms.

Quinine Efflorescence. — Köbner reports³ two cases of erythematous eruption, resembling that of scarlet fever, affecting the head, neck, and extremities after moderate doses of quinine. The eruption was preceded by gastric disturbance and by chills and febrile reaction. Upon

¹ *La France médicale*, March 31, 1877.

² *Pflüg. Archiv*, xi. 222.

³ *Berl. klin. Wochenschrift*, No. 22, 1877.

the legs the efflorescence was papular and tubercular in form. The attack was repeated after two distinct administrations of the drug, and the eruption lasted in proportion to the amount taken.

La Dartre. — In a lecture upon this figment of French imagination Dr. Guibout states¹ that the existence of *la herpétis*, as he prefers to call it, is generally accepted to-day by all dermatologists except Pidoux and Hebra (?). He has added a new element to its nature, that of spermatie impregnation. In other words, it may be communicated from man to woman “in the same way as tuberculosis, scrofula, and syphilis,” through coition, by the conveyance of a germ of the diathesis. The chief objection with everybody out of France to “*la dartre*” has been that there was nothing in it but the name. It may be thought by some that M. Guibout has now added substance as well as a new title.

Pathology of Herpes Zoster. — Dr. G. H. Rohé, of Baltimore, objects² to the removal of this affection from the position assigned to it by Hebra, among the acute exudative dermatoses, to the neuroses, and claims for it a relationship or analogy to the specific eruptive fevers upon the following grounds: (1.) The strictly self-limited character of the disease, and its tendency to spontaneous recovery after a slightly varying duration. (2.) The constant occurrence of more or less well-marked prodromic symptoms. (3.) The character which it possesses with the other specific diseases, of occurring but once (generally) in a life-time. (4.) The uselessness of attempts to “cut short” the disease by therapeutic measures. And (5) the well-attested quasi-epidemic character of its prevalence at times. He believes that its essential nature is to be sought beyond the structural lesions in the spinal ganglia; that these alterations in the nervous and cutaneous systems are only the results of a previous blood infection. The unilateral character of the affection he does not attempt to explain or to reconcile with these views. If we accept them in the main we may still believe that the cutaneous manifestations are directly due to the preceding changes in the nerve ganglia from which the districts affected receive their nerve supply, just as similar forms of cutaneous lesions are produced by traumatic injury of nerves.

Pityriasis Rubra. — Dr. Hinton, of Philadelphia, reports³ three cases of some disease of the skin under this title, which disappeared rapidly under treatment, and states that the physician under whose charge the patients were knew two or three families of which several members were affected in the same way. Pityriasis rubra of Hebra is so rare a disease that he had seen but three cases at the time of publication of his book, and these were all fatal. Whose pityriasis rubra is meant in

¹ L'Union médicale, July 28, 1877.

² Archives of Dermatology, vol. iii., No. 4.

³ Philadelphia Medical Times, September 15, 1877.

this article is not apparent from the descriptions furnished, — certainly none known to ordinary observers.

Chrysophanic Acid in Psoriasis. — Dr. Will, of the Aberdeen Royal Infirmary, reports ¹ a case of universal p. punctata, nummularis, etc., in which an ointment of chrysophanic acid, fifteen grains to an ounce of lard, was rubbed into the skin night and morning. The scaliness of the patches disappeared in a few days, and in three weeks the skin presented a perfectly healthy appearance. The caution is given that the substance stains the clothing of a permanent purple color, as it does the skin temporarily.

The Relations between Eczema and Psoriasis. — Dr. Campbell, of New York, believes that these affections are intimately related, and states ² the grounds of this belief to be that, —

First, we not unfrequently meet with cases in which the two diseases coexist.

Second, a person may have an eczema at one time, and be subject to psoriasis at another period.

Third, the tendency to gout and rheumatism which exists in eczematous and psoriatic patients.

Fourth, the derangements to which the urine is subject in both diseases.

Fifth, the debilitated state of the health sometimes seen.

Sixth, the hereditary natures of the two diseases.

Seventh, their constitutional nature.

Eighth, their symmetrical development.

Ninth, their proneness to recur, and their chronicity.

That eczema and psoriasis are properly placed in the same class of inflammatory or exudative diseases there can be no question; that some cases of chronic eczema and psoriasis look very like each other there is no doubt; that a person with psoriasis may occasionally have an attack of eczema is well known; but these circumstances in no way affect the question of their independence, which Dr. Campbell raises.

In connection with his reasons it may be stated: *First*, that psoriasis very rarely occurs with eczema. Of ten thousand cases of skin diseases occurring under competent observation in the cities of New York, Philadelphia, and Boston, eczema formed 38.7 per cent., while psoriasis but 3.7 per cent. Among the three hundred and seventy-three cases of the latter affection but very few could have been associated with eczema. In the few instances that such coexistence has fallen under our observation the eczema has been secondarily established, either in consequence of direct over-stimulating treatment, or has been developed in skins thus disposed in consequence of the cutaneous excitement

¹ The Medical Press, August 8, 1877.

² Archives of Dermatology, vol. iiii., No. 4.

incident to the rapid evolution of the psoriasis. As it has been recently shown (see last report) that the seat of the patches of psoriasis is often determined by cutaneous injuries of various kinds, or in other words that the disease may have a traumatic origin, so it is not at all improbable that a preëxisting eczema may develop in persons thus disposed, as in psoriasis. In this connection, too, it should not be forgotten that the latter affection in the early stage is sometimes accompanied by so great a degree of active hyperæmia and itching as closely to resemble acute eczema; while on the other hand patches of chronic eczema so strongly resemble psoriasis as to be not infrequently mistaken for it. Such errors of diagnosis will explain in part, perhaps, the

Second reason offered, although there is no reason why a person liable to psoriasis as to any other disease should not have at some time an eczema.

Third, is there a special tendency to gout and rheumatism in eczematous and psoriatic patients? We have never been able to discover it, and would like to see some accurately recorded data to warrant such theory. How many of the forty-two hundred patients with eczema or psoriasis above referred to, is it supposed, ever had rheumatism or gout?

Fourth, the derangements in the urine are so identically those met with in all sorts of disturbances of the economy that they can hardly be regarded as a common tie between these affections.

Fifth, sixth, eighth, ninth, the same reasons might be offered for an intimate relationship between either of these affections and seborrhœa, for instance.

Seventh. The constitutional nature of the two diseases is stated to be shown by the results of treatment: that they only rarely get well by local treatment; that by internal medication they entirely disappear. This might be answered by the equally complete proposition: they almost always get well under local treatment alone; they rarely disappear under internal medication alone, because no one relies upon it.

Sycosis. — Dr. A. R. Robinson's prize essay¹ upon this disease is the most important contribution to our knowledge of its anatomy which has yet appeared. Hitherto, investigation has been limited to an examination of the hairs pulled from the affected portions of the skin; Dr. Robinson has studied the changes of the hair tissues *in situ* by making sections through the diseased skin in all stages of the affection. He finds that in simple sycosis the process is always at first a peri-folliculitis; that then the structures of the follicle are acted upon by these inflammatory products, especially by the serum, which causes destructive changes in the soft parts of the hair and in the external and internal root-sheaths, by which their cells are partly destroyed, leaving a

¹ New York Medical Journal, August and September, 1877.

granular mass and the round nuclei. In the later stage only the hard, corneous part of the hair remains. The adjoining sebaceous glands may be secondarily affected in a similar way. In the severest forms of the disease these retrograde changes proceed further and give rise to the formation of cicatricial tissue and consequent permanent alopecia. This portion of the essay, which contains the results of his careful anatomical studies, is illustrated by numerous, large, and admirable drawings of the most characteristic changes in the tissues. He considers the disease a dermatitis, and not primarily an affection of the hair follicle, and the direct cause of the peri-folliculitis is to be found, he thinks, in the irritation produced by the stiff hairs of the beard on an irritable skin tissue. Dr. Robinson treats of the disease also in all its relations, and the whole paper is one of great value.

On the Frequent Occurrence of Eczema in Diabetic Patients. — Dr. Hicks communicates ¹ his observation upon the frequent coexistence of these two affections, especially in women. He has found that a large proportion of females affected with diabetes suffer from pruritus and eczematous inflammation of the genitals, and later of the thighs and abdomen. He explains this naturally by the irritation produced by the circulation of a blood saturated with sugar in the cutaneous tissues. The eczema may spread itself rapidly over the whole surface, and in some cases, according to our observation, presents peculiarities of form which betray its unusual cause.

(To be concluded.)

PARKER AND BETTANY ON THE SKULL.²

WHATEVER one's opinion may be as to the position comparative anatomy should hold in medical education, there can be no doubt that it is essential to whoever aspires to a scientific knowledge of the human body, and that many difficult points in the latter become clear by comparison with lower and simpler forms. This is especially true of the head. Great interest has for a long time existed with regard to the skull, especially concerning its alleged vertebral nature. It would be very interesting to trace the history of the study of the skull from its origin to the present time, as it would be a good illustration of the way in which careful, conscientious research overcomes not only the inherent difficulties of an obscure subject, but those foreign ones which superficial work and a fancy for mysticism have added to it. We have no space to enumerate the various theories, all wrong and most of them laughably absurd, according to which from three to seven vertebræ have been found in the head, but it would be easy to show how step by step the views held have become more rational, till at last the cranial vertebræ have followed the

¹ The Lancet, March, No. 13, 1877.

² *The Morphology of the Skull.* By W. K. PARKER, F. R. S., and G. T. BETTANY, M. A. London: Macmillan & Co. 1877.

absurdities of Oken and Spix, the latter of whom drew analogies between the skull and the earth. A good text-book on the vertebrate skull has been for a long time a desideratum. Huxley, Gegenbauer, and others have done good work, but an intelligible work which should contain enough, and not too much, was wanting, and this void is filled by the work before us. The skull of the various vertebrate types is studied by the light of embryology; theory is kept within strict limits, and transcendentalism does not appear. Nothing could be drier than this work to the dabbler in "popular science;" it is meant for the earnest student, and in spite of the numerous and excellent cuts even he will find at least a few typical specimens essential. We are sure that all teachers of comparative anatomy will join us in welcoming this book. T. D.

PHIN ON THE MICROSCOPE.¹

WE owe an apology to the author for our delay in giving this little work the word of praise it deserves. It is for beginners, and gives them much excellent advice and instruction. We are particularly pleased to find the cause of simplicity in the construction of stands and stages making progress in America. Almost the only criticism we have to make is the want of directions for hardening animal tissues that are to be cut into sections.

WALSH'S LEDGER.²

WE are inclined to think this a very convenient form of ledger. The call book and tablet are already known.

THE DEATH OF DR. CLARKE.

AFTER a long and wearing illness, Dr. Edward H. Clarke breathed his last on the evening of November 30th. Though it was generally known that his disease was mortal and its termination merely a question of time, yet his death has caused a profound feeling in both private and professional circles. He was born at Norton, Mass., in 1820, and graduated at Harvard in 1841, being first in his class. His medical studies were interrupted by ill health, and it was 1846 when he took the degree of M. D. at the University of Pennsylvania. He began practice in Boston, and by his talents and assiduity he made exceptionally rapid progress, being, moreover, assisted by the late Dr. Perry. He visited Europe several times, and devoted much attention to diseases of the ear. With Dr. Bowditch and some others he revived, in 1846, the Boston Society for Medical Observation, which had been practically dead for eight years. At about 1850 he and some other gentlemen started the Boylston Medical School, which avowed itself the rival of Harvard, and endeavored to

¹ *Practical Hints on the Selection and Use of the Microscope.* By JOHN PHIN. Second edition. New York: The Industrial Publication Company. 1877.

² Published by Ralph Walsh. Washington, D. C. 1877.

obtain from the legislature authority to confer degrees. This privilege was not obtained, but the Harvard Medical School was forced to greater exertions, and in 1855 Dr. Clarke was appointed professor of materia medica at Harvard, which position he held till 1872. He never held a hospital appointment, though when the City Hospital was opened he was pressed to accept one. At the time of his death he was an overseer of Harvard University, and a few years ago he, together with Messrs. Charles Dalton and T. Jefferson Coolidge, was appointed to the honorable and responsible position of park commissioner by the mayor of Boston. Though a good writer, he leaves but few works, one of which, that on the Bromides, he wrote in conjunction with Dr. Robert Amory. He was greatly interested in all subjects affecting the health of the community. His little popular essay entitled *Sex in Education*, published in 1873, attracted great attention and excited much controversy. The salient point of the book was the demonstration that as girls are different from boys they require at least certain modifications of education. The rancor that still exists among radical so-called "reformers" and advanced thinkers bears evidence to the truth and force of the book. A few years later Dr. Clarke published the *Building of a Brain*, which was of a somewhat similar nature but of less vigor. He occasionally reviewed books for the *JOURNAL*, but was not a frequent contributor. His last paper of importance was on Practical Medicine in the *Century of American Medicine*, published last year in *The American Journal of the Medical Sciences*. It is believed that during his long illness he has been at work on a book, but we do not know whether it is destined to see the light.

Dr. Clarke was an indefatigable worker, for though, as we have said, interested in public matters, he had a very large, responsible, and lucrative practice. Some three or four years ago, feeling overtaken, he endeavored to give up all but consultation practice, but his days were numbered, for at least two years ago cancer of the rectum was discovered. Patient and calm, with his mind in full activity, he has waited for the end.

His reputation as a practitioner was deservedly very high, and his patients had confidence in him to a degree that is rarely seen. His quiet, attentive manner, his pertinent questions, his simple and judicious advice, soothed the apprehensive and encouraged the weak. The patient felt himself under the influence of a master mind.

"At his control
Despair and anguish fled the struggling soul."

As a lecturer he had great success. During the short winter days his lectures at the school were often at eight in the morning, but the room would be filled with an attentive class (and this was in the days of turbulent students) that listened with unwavering interest and in the most perfect silence. There were no graces of oratory, no charm of voice, no flashes of wit; there was simply the earnest teacher. Students of other schools asked with incredulity about this professor "who is said to make materia medica interesting." In truth, his lectures were devoted chiefly to therapeutics, but they were models of their kind. The action of the drug on animals and on man, the effect of a small and of a large dose, of long-continued use, and circumstances modifying its action, were all treated separately and clearly. Dr. Clarke was not of those

who think *materia medica* consists only of drugs. Light, heat, air, the effect of the imagination, were discussed as methodically as opium or alcohol.

The good physician, strong thinker, public-hearted citizen is gone. His example remains.

MAYOR PRINCE AND THE BOARD OF HEALTH.

It has always been the boast of the JOURNAL that while advocating the claims of health and the good of the community it takes no part in politics. We care not a straw to what party a public man owes allegiance; it is our province only to see that professional and sanitary interests do not suffer in his hands, and it is on this ground that we think it right to warn the community of a danger that threatens it should Mr. Prince be reëlected next week. The establishment of the City Board of Health by the city council in 1873 was a step in the right direction. From that time all matters relating to the sanitary well-being of the city have been under the direct management of three commissioners. The public know how faithfully and well they have performed their duties.

One of the board is a physician, and all who have had dealings with the health office will bear testimony to the good work done on the board by its chairman, Dr. Durgin. Well educated, not only as a member of his profession but as an expert on matters relating to public hygiene, exceedingly conscientious in the discharge of duty, modest and unobtrusive in manner, firm in his convictions, and immovable in what he thinks right, his value to the city as a member of its Board of Health cannot be overestimated.

Last spring Mayor Prince appointed Mr. James M. Keith in place of Mr. Henry G. Crowell, the latter a gentleman whose record had certainly entitled him to a reappointment. This coming spring the term of three years for which Dr. Durgin was appointed will expire, and it is well known from several remarks of Mr. Prince that if he is reëlected he will not reappoint Dr. Durgin, but will see to it that some gentleman who, though he may not serve the city so well, will serve the mayor better shall take his place. The firm stand by the Board of Health in direct opposition to Mr. Prince in his efforts to remove faithful public servants and to fill their places with political workers is a resistance which is not to go unpunished should the mayor be reëlected. It is to be hoped, therefore, that the members of our profession will take care that the Board of Health receives the support at the polls to which it is justly entitled, and the election of Mr. Pierce be a notification to Mr. Prince that the medical profession do not believe in dismissing public health officers without good and sufficient reasons.

It is not for us to discuss the police system at large, but under the heading "drunk or dying" disagreeable revelations might be made. Members of the profession know more than others of the corruption of the force and the ugly stories which are hushed up. A reform in the department is needed, and Mayor Prince is not, we think, likely to effect it.

RECENT GERMAN SANITARY LITERATURE.

THE immense effect of the Franco-Prussian war in stimulating thought and active measures in relation to the preservation of health and prevention of disease is readily marked in the organization of the German Public Health Association five years since, in the establishment of the Imperial Board of Health, in which Pettenkofer was offered the chief place at its beginning a little over a year ago, and in the large number of treatises on public hygiene which have lately been published. Among the systematic hand-books on that subject, which have all appeared within three years, may be mentioned the works of Geigel, Hirt, Roth and Lex, Oesterlen and Schauenburg, beside a new edition of Caspar's *Forensic Medicine* by Liman, and of Eulenberg's *Medicinalwesen in Preussen*; the journals and *brochures* in particular branches of the subject come so rapidly that it is almost impossible to follow them. With all this, it seemed to the German Public Health Association very desirable to have a less purely scientific and technical system of hygiene, and for that responsible work they chose Dr. Friedrich Sander, of Barmen, an active member of the association, librarian of the Society of the Lower Rhine for Public Hygiene, and for some years past a well-known writer on sanitary and statistical science.

The result of Dr. Sander's labor,¹ which has just appeared, fully justifies the high expectations which one would naturally be led to have of it. But first, it should be said that the excellent arrangement, easy style, clear type, and good paper render the book a very readable one. It is arranged in two departments: the first, general, historical, and theoretical, — or perhaps the writer uses a better word in calling it fundamental; and the second, relating exclusively to the application of the principles of hygiene to conserving the health of the individual and of the community.

In the first part, the *first* division (20 pages) defines public hygiene as being the care which the state may reasonably be expected to exercise over the health of the individual by himself and in his relation to the community, — not, as is more commonly stated, the care of the public health, that is, the health of the state as a whole. While education of the masses is thought desirable for this end, and for the elevation of the individual, the writer thinks that great evil has arisen in England from pushing this theory too far, and allowing the self-interest of each man, holding his house as his castle, in many cases to interfere with the health and rights of others. The province or scope of hygiene, too, is well treated here. The *second* division (95 pages) discusses the theory of the preventable diseases, in which a mass of information is condensed so as to be available for those who have not time to consult the original authorities. The *third* division (47 pages) deals with the history of hygiene, giving to Moses less and to the early Greeks and Romans more credit than has been usual; and this position is fully sustained by the citation of well-chosen facts and references. The Middle Ages, the early centuries after the

¹ *Handbuch der oeffentlichen Gesundheitspflege*. Im Auftrage des deutschen Vereins für oeffentliche Gesundheitspflege. Verfasst von DR. FRIEDRICH SANDER, Sanitätsrath, etc. Leipzig: S. Hirzel. 1877. Pp. 502.

Reformation, the work of Johann Frank a century ago, and a full account of portions of the history of English sanitary reform for the last forty years are so critically considered that we hoped to see some recognition of the work of Italy and France, where modern sanitary science really began, although in some respects those countries have been far outstripped in the race during the last quarter of a century. Roscher is effectively quoted as laying upon Adam Smith's shoulders the blame of the rapid industrial development of modern life and thereby bringing on the laboring classes the moral, social, and sanitary ills of excessive overcrowding; but the theory of Malthus that epidemics and disease of all kinds are really blessings, by removal of the unfit and survival of the fittest, is combated on the ground that many of the strongest and best are crippled for life, even when not killed by the same means. Kaulbach, dying of cholera in winter and Anstie of fever, in highly civilized cities, are too recent and sad instances of this fact soon to be forgotten. In reviewing these points, the cholera is credited as being the first great sanitary reformer; and accurate registration is shown to have been the basis of all concerted action for carrying out improvements demanded by that great scourge, now hardly feared, at least in England.

In the second part, the first section (268 pages) is devoted to air, water, soil, and food, or the general principles of public hygiene. The second section (55 pages) embraces a consideration of dwellings, streets, hospitals, schools, trades and manufactories, prisons and cemeteries, in their various relations as affecting health; and here we are surprised at the deficiency of food in many of the German prisons, and at the consequently high sickness and death-rates there — fully three times as great as in our state-prison at Charlestown; but in a few places this evil has been already remedied. We cannot help thinking that too much attention is given in Germany, as is shown in the book before us, to the theory of diet and to an adjustment of the number of ounces of food of different kinds per individual. The American system of supplying nutritious food and permitting each man to eat as much as he wishes is much better. The third section (16 pages) is occupied with the principles of protection against infectious diseases, including disinfection, quarantine, and vaccination.

Syphilis is included among the contagious diseases, — one, too, which it is useless to attempt to investigate by purely statistical methods. The writer thinks that the evil is a great one, but that comparisons cannot be readily made in this regard between different countries, inasmuch as there is so great a difference in the ease with which the victims of syphilis and gonorrhœa are able to get treatment. In Finland, for instance, notices are posted even in the churches to the effect that *all* contagious and infectious diseases are treated free in the hospitals; in Copenhagen, there is a police ordinance giving free treatment to all persons affected with venereal diseases; and in some cities they are not, in the curable stage at least, even admitted to the public hospitals and dispensaries. Although Oettingen is not fully credited in his statement that syphilis threatens to undermine the fabric of modern society, yet it does seem that the danger is increasing, a case in point being the fact that the death-rate from syphilis has increased very much in England, without including the various forms of brain disease attributable to that cause. From 1850 to

1859 in that country, of 100,000 living there died annually of syphilis 4.42; from 1860 to 1869, 7.30, and from 1870 to 1874, 8.10. The author recommends two means of diminishing the evil: (1) regulation of prostitution by periodical examinations of the women; (2) facilitating the means of treatment in hospitals for those who have become ill. The valuable experience of France, Germany, and England is not analyzed, or even summarized, in these points, as it is perhaps best that the subject should be dealt with as briefly as possible in a book intended for general reading. But the writer certainly does wisely in alluding to the magnitude of the evil and to the propriety of some remedy. Between the *laissez faire* theory of many cities and the Russian principle in China, of placing all the prostitutes for their navy on an otherwise uninhabited island under strict guard, with regularly allowed visits from the sailors on the one hand and examinations by the surgeons on the other, there is undoubtedly a middle course. But Dr. Sander's second proposition for the care and cure of an unfortunate class, whose sufferings are often out of all proportion to their sins, one would think should commend itself to all really intelligent and philanthropic people. No reference is made, in this connection, to the responsibility of men in spreading venereal disease, nor to the manifest justice of restrictive examinations, etc., being applied to them equally with women.

MEDICAL NOTES.

— O. Küstner, *Centralblatt für Gynaekologie*, 1877, No. 9, has given his attention to the white points which new-born children have on the end of the nose (white comedones). The examination of twenty-nine children who had not been carried to full term and of seventy children which had been showed that similar follicular enlargements, through plugs of secretion, occurred also on other parts of the face, on the cheeks towards the forehead, and especially well marked on the under lip and chin; and that the earlier a child was born—from about the thirtieth week backwards—so much the more did they appear, while the nearer the children were to the normal time of birth the less were these comedones apparent. At full term they covered the end of the nose only.

— In a paper on Why Dental Caries is so General, and How to Prevent It, published in *The British Medical Journal* for October 20, 1877, Alexander Stewart, F. R. C. S., claims that dental caries is due to the solvent action of acids, and that the chief sources of these acids are the fermentation of food left on and between them after meals,—acid drinks, some articles of food, as fruit cooked and uncooked, salads, pickles, etc., mineral acid mixtures, acid mucus from the gums, acid saliva from pregnancy and diseases of the system, acid fumes in some processes of manufacture, etc. Every prescription containing an acid, the writer intimates, should be accompanied by an injunction to the patient to rinse his mouth with an alkaline solution immediately after each dose. The form of alkaline solution recommended is a teaspoonful of bicarbonate of soda and a tablespoonful of eau de Cologne in a quart of water, a little hot water being added if required to warm the quantity poured out for use.

A small piece of camphor may replace the eau de Cologne. This or some similar solution should be used to rinse the mouth at least every night at bed-time, but better after every meal, whenever there is suspicion of acid acting or having acted on the teeth. It should be used several times a day from the commencement of pregnancy. The mouth should be rinsed with it, not only after every dose of mineral acid medicine, but also as soon as possible after acid fruits and whatever tastes acid in the slightest degree. The writer desires to see these three means in use: —

(1.) Rinsing the mouth thoroughly with water after the last meal of the day to remove all food. (2.) Rinsing immediately afterwards with an alkaline solution to neutralize any acid or its effects. (3.) Moderate brushing in the morning to remove any mucus secreted during the night.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.¹

CLINICAL SERVICE OF DR. WILLIAM GOODELL,

Professor of Gynecology in the Medical School of the University of Pennsylvania.

Polypus of Cervix Uteri. — Polypi of the womb are usually very easy of recognition. They hang down into the vagina, and by passing your finger through the vulva and along the stem of the polypus you can easily get it or a sound into the womb, and assure yourself that it is really a polypus and not an inverted womb that you are dealing with. Here the diagnosis is more difficult. I find what may be either a very large polypus or an inverted womb hanging down in the vagina and projecting slightly from the vulva. I attempt to guide my finger along the side of this tumor into the womb, but find that I cannot. There seems to be a complete connection all the way round between the sides of this body and those of the cervix uteri. Let me insert one finger into the rectum, and with the other hand make pressure above the pubes. I certainly feel between my finger and hand a solid body, shaped like the womb, and situated exactly where the womb should be. Now if this body is the womb, why am I not able to get my finger into it by following the pedicle of the supposed polypus? It is very strange; let me try once more. Yes, here is one spot where there seems to be an opening, not large enough for my finger, indeed, but I ought to be able to get a small sound through it. I am right; there is a very small orifice here, and by using a little force I am able to push my sound through it. How far does it go beyond this opening? Only one inch and a half. This opening must lead into a womb, and yet one inch and a half is very short measurement. I insert the sound again, and this time it goes in further, two inches and a half. Now with the sound inserted and my hand on the abdomen I am able to map out the exact size and position of the womb, for womb I am sure it is. This womb is not inverted, not even slightly cupped, but is entirely normal. I might make assurance doubly sure by passing my finger into the bladder through the urethra, but I am so certain of my diagnosis that I do not consider this necessary in the present case. I have en-

¹ Reported for the Boston Medical and Surgical Journal.

larged the opening slightly with a dilator, and have succeeded in getting my little finger into the cavity; yes, there is no doubt that the womb is normal and in its usual site. Polypus of the cervix uteri is a somewhat rare affection, although I very often come across cases of polypus of the womb.

This woman tells me that she has been bleeding since last spring. While I have been talking you have noticed this stream of blood slowly issuing from the vagina. What is to be done for her? I think I can cure her entirely by removing the polypus. How do I do this? The woman being now thoroughly etherized I take hold of the polypus, and by pulling upon it bring the cervix well into view. You see how complete is its connection with the cervix except at this one little point. Let me give you a hint. Suppose a polypus is so large as to fill completely the vagina. How are you to get it down and out? Why just put on the forceps and deliver it as you would a child's head. If at any time you meet with a tumor so large as to fill up the whole vagina you may rest assured that it is not an inverted womb; an inverted womb is never of such size.

Having brought the base of the polypus and the cervix uteri well into view (the anterior portion of the neck of the womb has, you see, become slightly hypertrophied) I begin by cutting a little groove through the mucous membrane of the base of the polypus, so as to lodge my wire *écraseur* and keep it from slipping. You know, of course, that my object is to cut this growth bodily off. I might do this with a knife or with the galvano-caustic loop, but the first might cause serious hæmorrhage, and the galvanic battery required for the other is so capricious, so likely to get out of order, that I much prefer the simple wire, not the chain, *écraseur*.

While I have been talking to you I have carefully cut a groove all round the base of the polyp, studiously avoiding any injury to the cervix. This cutting has caused but little bleeding. Now I will get my assistant to fix the wire in place and begin to tighten it very slowly, — *very slowly*, because this is a tough myoma to be removed and if I attempt to do the work of cutting rapidly the wire is very likely to give way. While the assistant is at work let me give you a point about fastening the ends of your wire. There is what is known as the "traveling button" in an *écraseur*. In this case, as I want a crushing action, I have fastened both ends of the wire to this button; each end comes down together, and so the loop simply crushes through this musculo-fibrous mass. But suppose I desired a semi-cutting action; then I should fasten one end of the wire to the "traveling button" and the other end to the handle of the *écraseur*. I am using to-day for my loop a piece of piano wire, — wire used for producing the upper notes of the piano. A gentleman of this city makes what is called a phosphide of iron wire for this purpose, and claims that it is stronger; but I have given his invention a fair trial and do not think it any better than the piano wire. You see how nicely the wire is crushing its way through, without causing any hæmorrhage. A little more, — now, the whole polypus has come away.

What shall be the after-treatment? This woman has the exact sallow complexion which attends malignant disease, but it is due in this case to the effects of the constant drain of blood upon her system. I shall do nothing

for her but inject a little dilute Monsel's solution (one part of Monsel to three of water) into her vagina, and order a moistened sponge to be kept there. I shall put her at once upon a course of dialyzed iron. (The woman suffered but little pain during the week following the operation. She was again brought before the class on the eighth day, and an application of iodine was made to the cervix, which presented the appearance of a simple erosion.)

Dysmenorrhœa from Stenosis and Flexion. — This woman has been bed-ridden for over seven years, and is in a very hysterical condition. By strong moral control I am gradually getting her more and more out of bed. As regards her real troubles I find that she has a bad retroversion of the uterus, with an entirely inelastic vagina and a much contracted cervical canal. I have been treating the retroversion very successfully with pessaries. As regards the treatment of stenosis there is much diversity of opinion. In such cases as this several prominent New York gynæcologists teach that incisions should be made into the cervix. By placing the patient under ether and using very powerful dilators, whose blades do not feather, I find that it is very rarely needful to incise the cervix. In using such dilators as the above, which have no shoulders, you should first insert the instrument right up to the fundus of the womb; then, before beginning to dilate, withdraw it half an inch.

Closure of the Vulva for Vesico-Vaginal and Recto-Vaginal Fistula. — Thirteen years ago this woman went into her first labor, during which she was attended by two most excellent obstetricians. It happened to be an arm presentation, giving no chance for turning, but showing a tendency to spontaneous evolution. While one physician was away and the other asleep the child was born. As a result of these complications she had very extensive sloughing of the upper and outer wall of the vagina, in the course of which the base of the bladder and a large portion of the urethra were eaten away. Since that time the woman has menstruated but twice. Last spring she came to me to have the operation for vesico-vaginal fistula performed. This I found utterly impossible; there was nothing from which a flap could be made. So I passed the galvano-caustic wire (insulated completely except at its point) into her rectum, and made an artificial recto-vaginal fistula with the intent of converting the rectum into a bladder. At first the rectum objected to the presence of the urine, and as a result she was constantly obliged to go to stool. Afterwards, however, it became more accustomed to its new office, and she only had a passage two or three times daily. I took this first step in my operation some months ago with a purpose. Artificial recto-vaginal fistulæ are very loath to close up again, and the success of the operation for closure of the vagina depends primarily, of course, upon the integrity of the opening into the rectum. I am going to perform an operation to-day that, so far as I know, has been successfully performed but once before. You will find a note of this case on pages 43, 44, of Dr. W. W. Keen's Toner Lecture for 1876. The case he gives occurred in his own hospital practice. I intend to-day to close up this woman's vulva by sutures. Dr. Keen had to perform some thirteen operations to secure accurate healing of the sides, but the woman upon whom he operated was vastly improved.

I shall begin by shaving off the hair from each side of the vulva where I

intend to put in my stitches. Now that the hair is out of the way I proceed at once to snip off the skin with a pair of curved scissors, beginning below so that the parts may not be obscured by blood. Every now and then a little artery spurts, which I secure at once by a *serre fine*. Scissors do not always behave well in these circumstances; the edges may not be perfectly true; still I prefer their half-crushing action to that of the knife. They do away with a great deal of bleeding. You notice that I have been snipping off the skin and mucous membrane well into the vagina on each side. Every now and then I ask the assistants to relax their hold so that I may fit the sides accurately together and see where I am. Just here at the entrance to the meatus I must work with great caution. If any of the veins of the bulbs were cut I might cause very serious bleeding. I think I have pared off all the mucous membrane needful on each side now, and am ready to put in my sutures. But first I must cut off these "aprons," the nymphæ, for they are no longer of use, and will only interfere with the accurate healing of the sides. These plastic operations are tiresome, but I must resist the temptation to hurry through them for the woman's sake. I put my first suture in on a level with the lower margin of the anus, and pass it through one side with a sweep. Always bring out the stitches on the edge of the denuded surface. I do not expect this to be near as successful an operation as that for ruptured perineum. I have passed eight sutures through. I have included plenty of tissue in my stitches so that they won't tear out. For this purpose I thrust the needle straight back at first and then bring it round. If these sides do not heal completely I shall have to open the wound again. At the last stitch and that nearest the symphysis pubis I have passed my needle and wire all the way round. The great difficulty always is to see that the points of exit and of entrance of the sutures are exactly opposite. Now I am ready to draw the sides together. As I tighten each suture I syringe out the part carefully so as to wash away all the urine from the sides of the wound. In clamping the sutures I must use very large shot in order to make the fastenings secure. I will use two clamps for each of these lower stitches. The most difficult stitch for healing is the last, that just at the symphysis pubis. All the sutures are now fastened. It makes, you see, a very clean apposition. I shall have a sigmoidal catheter passed through the rectum into the woman's bladder, and the rectum drained by a flexible gutta-percha tube. Of course her knees must be bound together, and she must be given opium enough to dull the pain and to keep her bowels locked for eight or nine days. Be sure that you always put a pad between the knees before binding them together. [When the stitches were removed on the ninth day, the union of the sides was found to be complete except just at the site of the meatus urinarius. At this spot a small fistulous opening remained, through which the urine trickled out. The doctor attributed this opening to the fact that, underestimating the strength of the sphincter ani, he had used a flexible catheter instead of a silver tube to drain off the urine, and that the contraction of the muscle had closed the catheter and so forced the urine to find another means of egress. He further stated that he would attempt the closure of the fistulous opening by cutting flaps from both sides. This secondary operation he would postpone for a couple of weeks, until the patient had time to regain flesh and strength.]

SOFTENING OF THE BRAIN.

MESSRS. EDITORS, — The case of softening of the brain published in the *JOURNAL* for November 8, 1877, is an interesting case, but it was probably not, as the author supposes, a case of general softening of the brain. The few symptoms given, which are probably a very good summary of the patient's condition, would lead to a belief that from mental distress, anxiety, and worry the nutrition of the body had been interfered with, and, combining with this, loss of sleep and refusal of food had led to extreme anæmia, the brain especially participating. It must also be taken into account that menstruation had been present, though it is not mentioned whether the flow was profuse or not. The treatment leads to the belief that the attending physician recognized this condition of the patient and accordingly gave as he was able food and stimulants, and tried to insure sleep. The patient is said to have been extremely emaciated, and to have died of asthenia. The nervous symptoms are entirely in harmony with the view that there was cerebral anæmia. The delirium and mania are found in such cases. An extreme example of an acute anæmia, perhaps it ought to be called, may be found in delirium tremens. The formication, cutaneous hyperæsthesia, and dilated pupils are also symptoms found in anæmia, and the pulse showed the great prostration.

The post-mortem examination is not so well reported as the clinical history, and it seems as though the condition of the parts was not fully appreciated. No mention is made as to the season in which the death occurred: if in winter whether the body had been kept in a warm room, or whether the brain after removal was kept in a warm room. The publication of the case now would lead one to think that death took place during the past summer or spring. It would not be strange if an œdematous brain should become softened somewhat within twenty-four hours after death, even in quite cold weather. I say œdematous brain because no mention is made of an unusual quantity of fluid in the ventricles; yet the "brain and membranes were tightly packed in their case," and an œdematous condition of the brain is not rare in general anæmia. After speaking of the brain and membranes, then of the membranes alone, it is said "they were removed with great difficulty, the dura mater at the base of the brain being very dense." Does this mean that the effort was made to remove the dura mater from the base of the skull with the brain inclosed in that membrane? If so, it is no wonder that the brain should afterwards be "so soft as to break down at the slightest touch." Having blundered into this mistake once in my early student days, I can testify that after such an effort the brain would be soft. The strength of alcohol was not sufficient to keep a brain in warm weather, and certainly would not keep a brain which had been bruised and crushed in taking out.

One possibility has been overlooked, — kidney disease. It is said, "Nothing else noteworthy about abdominal viscera." This, perhaps, ought to exclude kidney disease, but mental anxiety is a cause or one cause of such disease, and is also the cause of anæmia and of cerebral symptoms.

I should not have attempted to show that this was probably not a case of softening of the brain excepting that there is such a wide-spread belief that

this is a rather common disease, especially among the comparatively aged. General cerebral softening does not exist. Even an œdematous brain if examined immediately after death is firm. The fact that some brains at autopsy are much softer or harder than others probably depends on differences as to the time at which the autopsy is made, the warmth of the weather or the room in which the body has been kept, or the amount of fluid contained in the brain tissues or in the ventricles; there may be also a very slight individual variation as to the normal firmness of different brains. The only cerebral softening properly so called is the result either of inflammation limited to the vicinity of tumors, abscesses, hæmorrhages, or wounds, or superficial and dependent upon meningitis, or limited to the area supplied by an obstructed blood-vessel. That is, cerebral softening is local, limited, and secondary. It is said that one hemisphere may be softened, but that must be extremely rare, and it might well be doubted whether there had not been an error in diagnosis unless the arteries at the base were examined and both the basilar and carotid found plugged. When one whole hemisphere is nearly destroyed by an abscess it would not be properly called "softening."

S. G. WEBBER.

A PLEA FOR FAIRNESS AND ACCURACY.

MESSRS. EDITORS,—Your correspondent, who sent you the letter from Philadelphia, published in your issue of November 22d, has laid himself open to some very serious charges. There is a great deal of indignation expressed here as regards his treatment of the University Medical School. If there is any city in the country where the University Medical School would like to have her present position fairly and fully stated, that city is Boston. Nobody denies his right to praise Jefferson; on the contrary it is a fair and honest motive, but every impartially minded reader must bewail his insinuations regarding the poor success of the University Medical School.

Near the bottom of page 603 of the JOURNAL he states that Jefferson was the *first* medical school in the country to give prominence to *systematic clinical instruction*. In Carson's History of the Medical Department of the University of Pennsylvania, 1869, page 117, he will find the fact stated that attendance at the clinics of the Pennsylvania Hospital during one session at least was required of every candidate for the degree of M. D. at the University, in the year 1811,—some eight or ten years before the Jefferson school was in existence. He also entirely ignores the fact that there is no bedside instruction given at Jefferson, while at the University the second and third year's men are divided into sections, so that each student receives, weekly, personal instruction in practical surgery and bandaging, gynæcology, and physical diagnosis.

I would also call attention to the fact that in making extracts from Professor Pepper's address your correspondent has taken the liberty of putting certain passages into *italics* without stating to the reader that the italics are his own.

At the bottom of page 605 of the JOURNAL the assertion that "the lectures

on surgery and practice of medicine in the third year are the same as those of the second course" is allowed to appear, while any one who knows anything at all about affairs at the University Medical School can state that although certain fundamentals are repeated each year in the above branches, yet that the subjects discussed in the third year are different from those lectured upon in the second. Thus in the second year in practice the specific fevers and diseases of the heart, lungs, and alimentary canal are lectured upon; in the third year the specific fevers and diseases of the lungs, blood, liver, kidneys, and brain. So with surgery.

Your correspondent reproduces in his letter a communication which appeared last spring in the *Philadelphia Evening Star*. This communication is nothing but one mass of crass inaccuracies. I have reproduced the communication below, substituting facts for fancies. By referring to page 606 of the *JOURNAL* the discrepancies will be noted.

OLD COURSE AT THE UNIVERSITY.

Number of lectures per week 24 (not including clinical lectures); in five months, 480, or 60 lectures each in four of the seven branches, and eighty each in the remaining three.

Anatomy, first and second session	160 lectures
Physiology " " " "	120 "
Chemistry " " " "	160 "
Materia medica, first and second session	120 "
Obstetrics, second and third session	120 "
Surgery " " " "	120 "
Practice " " " "	160 "
Expenses, \$315.	Total, 960 "

Your correspondent allows to go unquestioned the statement that 1680 lectures were sometimes attended under the old system. If a student took a three years' course under the old system he graduated in four branches at the end of the second year, and during the third year gave the time formerly occupied by lectures on those branches to study of the three practical branches.

THE NEW CURRICULUM.

Anatomy, first and second session	160 lectures
Physiology " " " "	120 "
General chemistry, first session	60 "
Medical chemistry, second session	20 "
Materia medica, first session	20 "
Therapeutics, second and third session	120 "
Obstetrics " " " "	120 "
Surgery " " " "	160 "
Practice " " " "	160 "
Morbid anatomy, first and second session	80 "
Medical chemistry (laboratory), second session	20 hours ¹
Materia medica " first "	20 "
General chemistry " " " "	60 "

Expenses, \$415. Total, 1120 lectures.

Your correspondent published in his letter the total number of lectures under the new curriculum as 800 and the total expenses as \$455.

¹ In this matter hours and lectures are synonymous terms.

I hope you will publish these corrections out of simple debt to the truth. I might find many other faults, but will not. The least that can be said about the letter is that there are four or five very serious inaccuracies in it, that its general tone in disputed matters is not frank, and that as regards its attitude towards the University Medical School it is unnecessarily hostile.

Very truly, SAMUEL M. MILLER, M. D.

PHILADELPHIA, November 26th.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING NOVEMBER 24, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York ²	1,077,228			27.46
Philadelphia	850,856	258	15.78	22.88
Brooklyn	527,830	210	20.69	24.31
Chicago	420,000	130	16.07	20.41
Boston	363,940	135	19.28	23.39
Providence	103,000	27	13.63	18.34
Worcester	52,977	14	13.74	22.00
Lowell	53,678	16	15.50	22.21
Cambridge	51,572	21	21.17	20.54
Fall River	50,372	13	13.42	22.04
Lawrence	37,626	16	22.11	23.32
Lynn	34,524	17	25.59	21.37
Springfield	32,976	4	6.31	19.69
Salem	26,739	9	17.50	23.57

A SPECIAL meeting of the Norfolk District Medical Society will be held in Bradley's Building, Roxbury, on Tuesday, December 11th, at eleven o'clock. Papers, communications, etc. :—

- (1.) Two cases of Surgical Injury of the Wrist. Dr. George J. Arnold.
- (2.) Parenchymatous Nephritis, with cases. Dr. Van Slyck.
- (3.) Miscarriage. Dr. Henry A. Martin.
- (4.) Recent Cases of Malignant Pustule and Œdema. Dr. Silas E. Stone.
- (5.) Pathological Specimens. Dr. William P. Bolles.

Lunch at 1.30, P. M.

BOOKS AND PAMPHLETS RECEIVED. — Transactions of the Medical Society of the State of Pennsylvania. 1877.

Circulars of Information of the Bureau of Education. No. 1, 1877, Reports on the System of Public Instruction in China, and, No. 2, Reports on Public Instruction in Finland, Netherlands, Denmark, Würtemberg, and Portugal.

The International Conference on Education held at Philadelphia July 17 and 18, 1876.

Contributions to the History of Medical Education and Medical Institutions in the United States of America. 1876.

A Case of Molluscous Tumor of the Ear. By J. J. K. Duncanson. (Reprinted from the Edinburgh Medical Journal.)

Exposition of Facts. By A. Y. P. Garnett, M. D.

ERRATA. — In the remarks of Dr. Knight and Dr. Cutler on a specimen of aortic aneurism, page 564 of this volume, for "mitral" (line thirteen) read "aortic;" for "auricle" (line sixteen) read "aorta;" and for "mitral" (line seventeen) read "aortic." The Editors are not responsible for these errors.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, DECEMBER 13, 1877. — NO. 24.

THE EARLY HISTORY OF THE MCLEAN ASYLUM FOR THE INSANE.

A CRITICISM OF THE REPORT OF THE STATE BOARD OF HEALTH FOR
1877.

BY MORRILL WYMAN, M. D.

THE Report of the State Board of Health of Massachusetts for the present year contains an article, by the secretary of the board, entitled *Disease of the Mind*. Its principal object, in the words of the general report of the board, is to show, “by citing well-known historical facts, that during the past century very great strides have been made in the treatment of mental disease.”

After quoting from the reports of Dr. Bell and of Dr. Earle, made in 1847 and 1848, with regard to the very few instances of personal restraint of the insane under their care, the secretary makes the following statement. The paragraph is quoted entire.

“With all this, the excited insane were found by a committee of our legislature in 1848 to be at the Worcester Asylum even in small rooms, ‘having the least advantages for light, none for ventilation, unfavorably located, dark, dreary, damp, and uncomfortable to that extent as to aggravate rather than to assist the cure of the unfortunate beings placed there;’ the male violent insane at the McLean Asylum, then considered one of the best, were kept in stone cells in the cellar; and this simply indicates the general knowledge of the time. The position and condition of the more quiet of the insane in asylums were very much better of course; but it was reserved for further study and experience to show that the most violent may be treated to a certain extent in a similar way.”¹

Many persons, medical men and others, have received from this statement very erroneous impressions as to the apartments and treatment of the violent male insane at the McLean Asylum. If these impressions were well founded it would be a stain upon the reputation of those who instituted and continued such measures, and upon the board of trustees, for whose fidelity and judicious care of the asylum from its foundation it would be hard to find a parallel.

¹ Board of Health Report for 1877, page 353.

I have therefore thought it best to correct the errors of statement in the above extract by a carefully prepared description, with drawings, of the building occupied by the violent male insane, and also to show what was the state of knowledge with regard to insanity and its treatment generally at the McLean previous to the period referred to.

I am impelled to do this not only because the statement is a part of the report of the State Board of Health, and has been distributed as such, but also because it has been distributed in a separate pamphlet, with an authority which would not have attached to an individual writer.

It may be here remarked that I have more than a general interest in correcting these errors. My father, Dr. Rufus Wyman, was appointed in 1818 the first physician and superintendent of the asylum; in 1835, after seventeen years of service, his health failing under the care and anxiety inseparable from such an institution, he resigned. My early life and a part of my medical pupilage were spent there. I may therefore be presumed to know something of its history.

When my father entered upon his duties he found buildings already erected. They consisted of a large and elegant house, the mansion of a gentleman of wealth, to which the trustees of the hospital had added two wings, each seventy-six feet in length by forty in breadth. The eminence upon which these buildings stand is remarkable for its beauty, and although, in the words of the trustees, "the situation selected appears to unite every practical advantage," it is much too small to admit of the proper arrangement of the buildings on the same level. The wings, as originally built, not differing materially in plan from hotels, are on a level several feet lower than the mansion. The buildings since added are necessarily on a still lower level. This abrupt slope, although it has some advantage and gives excellent opportunity for drainage, has compelled a crowding together of the different structures, not desirable, and no little skill and ingenuity have been required to obviate to the present extent this objection.

"The male violent insane were kept in stone cells in the cellar." How far this statement correctly represents the facts it is now proposed to examine.

The apartments occupied by the violent male insane in 1848, the rooms to which the report refers, are known at the asylum as the "strong rooms," and are four in number. They are in a brick building, fifty-four feet by twenty-three feet, called the "lodge" or "retreat;" it stands at the east of the mansion and quite detached from it. It was planned by my father and built under his direction in 1826. I have his original memoranda and manuscript plans, with a report to the trustees in March, 1825, on additions to be made to the asylum, of which this building was one.

When the "lodge" was built, the McLean Asylum, which was the

first in New England, had been open eight years; during this period it had received a larger proportion than ever since of patients from jails and almshouses, where they had no proper care. Some, neglected by those who had charge of them, were filthy and noisy; treated for years like lower animals, they came to resemble them in many of their habits; they had no proper rooms, and suffering from cold in winter were often confined in cellars; their keepers, glad to be rid of them, sent them to the newly opened asylum. Subsequently, the earlier removal of the insane to asylums probably greatly diminished the number who fell into this dreadful condition.

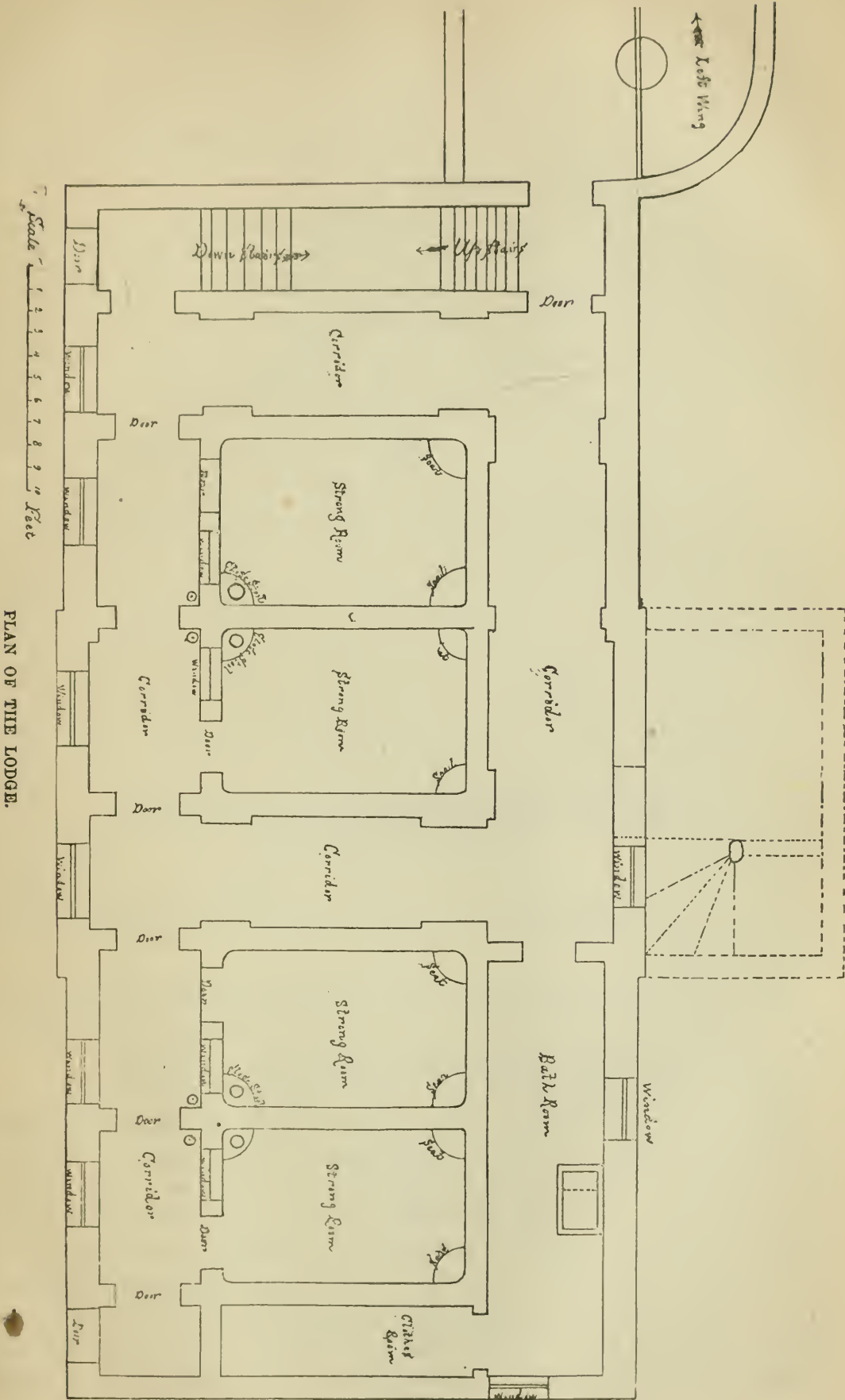
The "lodge" was originally of two stories, the upper intended for idiots and epileptics, those who were objectionable in their habits or subject to sudden outbreaks of frenzy. In this story the rooms were arranged as to warming, ventilation, and lighting as in the story below; the floor was to be warmed by steam or hot air circulating in channels beneath it. These apartments, however, were never finished, the number of patients requiring them having lessened. They were afterwards remodeled and fitted for a different class of persons. The remaining parts of the "lodge" are as originally built, with the exception of an upper story added by Dr. Bell in 1850.

The lower story contains the "strong rooms." They are now as when first built, except the front walls, which were removed last year when the building was transferred to the steward's department. The class of boarders formerly occupying them is now in the "Bowditch ward" for excited cases.

It should be distinctly understood that these rooms were exclusively for those unfortunate persons, some of whom are to be found in most large asylums, who at times are violent and noisy, who destroy their clothing, their bedding, even to the very mattresses on which they sleep, who defile their rooms in every possible way, — the most violent male insane. No others were ever placed in these rooms. Their number is small; these four rooms were more than sufficient for one hundred and fifty male boarders at the McLean. Mr. Tyler, for more than thirty years connected with the asylum as attendant, supervisor, and steward, a highly valued officer, assures me that more than two rooms were never known to have been occupied at the same time. But small as the number is, even if it be but a single individual, he should be provided for in the manner best suited to his individual case. How this is to be done has been a difficult problem, and probably always will be. Reasoning and persuasion can avail nothing. They may be drugged with narcotics, but experience has decided against this plan for any length of time. Some would have them kept in apartments similar to those of the more quiet, and in their vicinity, holding and restraining them by sufficient manual force; others think they should be secured and prevented from

doing mischief to themselves or others by means of manacles, strait-waistcoats, camisoles, muffs or mittens, as producing less desire for resistance than when opposed by manual strength. But neither of these plans prevent noise and filth, which render them utterly unfit companions for the more quiet. Others again prefer to abolish all restraint upon the limbs, and while the paroxysm lasts leave these most unfortunate sufferers in proper apartments, where they can be made safe, and as far as possible comfortable, allowed the full exercise of their limbs, and where neither their noise nor their habits will disturb any one. This last is the method adopted by my father at the McLean, and was continued during the administration of Dr. Bell, who succeeded him at the asylum in 1836. It was to carry out this method that he urged upon the trustees in 1825 the immediate erection of the "lodge."

In consequence of the formation of the ground, as above described, one side and one end of the lower story of the "lodge" for about one half its height, stands against a retaining wall. The other side (the front) and the other end opened upon an airing court fifty-seven by fifty; the floor of the "lodge" generally is *two feet above the surface of the ground*, the western end somewhat less, the ground falling off from the building in both these directions. On this floor, at this height above the surface of the ground, and in the front of the building, are the "strong rooms." Below the floors of these rooms is the cellar, about seven feet deep, extending under the whole building. This cellar is well lighted with windows on the front and end, paved with bricks, well ventilated, and every part clean and whitened. Here is the furnace for heating the air for warming and ventilating the "strong rooms" above, and also the especial arrangement for *warming their floors*. These "strong rooms" nowhere come in contact with the external walls; they are completely surrounded by corridors about five feet wide, properly ventilated and warmed, summer and winter. They are lighted by windows in the front wall, and also by smaller windows on the opposite side. The "strong rooms" are eleven feet by seven and a half on the floor, ten feet in height, the ceiling an elliptic arch, with a ventilating flue in the centre. They are entered by doors from the corridors, and lighted through unglazed windows about two feet square, never closed in any way. Directly opposite these windows are the large windows, about three by five feet, in the front of the building, opening upon the airing court. In the corridor are doors by which each room is completely separated from the others, and sound cut off as much as possible. Each room can be reached without passing any other. The walls, like those of other rooms in the asylum, are of brick plastered with Portland cement, made as smooth as possible; the corners are rounded for cleanliness, as has recently been done for the new wards of the Massachusetts General Hospital. In one corner is a close-stool communicating with the corridor



through the side of the room; in two of the corners, seats properly fastened to the wall. The floor is of granite slabs, eight or ten inches thick, smoothly hammered, and laid in cement. This floor is inclined towards one corner of the room, that next the corridor, where there is a proper outlet and waste-pipe. This secures the immediate draining away of water during the washing of the floor, of necessity frequently repeated with this class of patients.

Notwithstanding the ample preparations for ventilation and warming the air of the rooms and corridors, it was deemed essential that the floor also should be well warmed. To do this effectually and equably is a matter of no little difficulty. To be comfortable to those without clothing it should have a temperature of about 100°; this degree of warmth cannot be obtained from air fitted for respiration. In these "strong rooms" the difficulty is met by warming the stone floor by a fire beneath. It had already been successfully tried in a room in the asylum (it was not of stone nor in a cellar) fitted up for patients of this class. The fuel was burned in a proper fire-place, and the heated gases after circulating through the whole space beneath the floor of the rooms escaped by a chimney. The floors were thus warmed night and day, summer and winter, the thick slabs of granite keeping up an equable temperature hardly to be obtained in any other way. This method of warming is by no means new; it is essentially that of the ancient *hypocaust*, used two thousand years ago at Pompeii, as is fully shown by the excavations and also by the drawings upon the walls of the baths in this favorite watering-place of the Romans. In Pompeii the walls and ceilings also were hollow and warmed by the same fire.

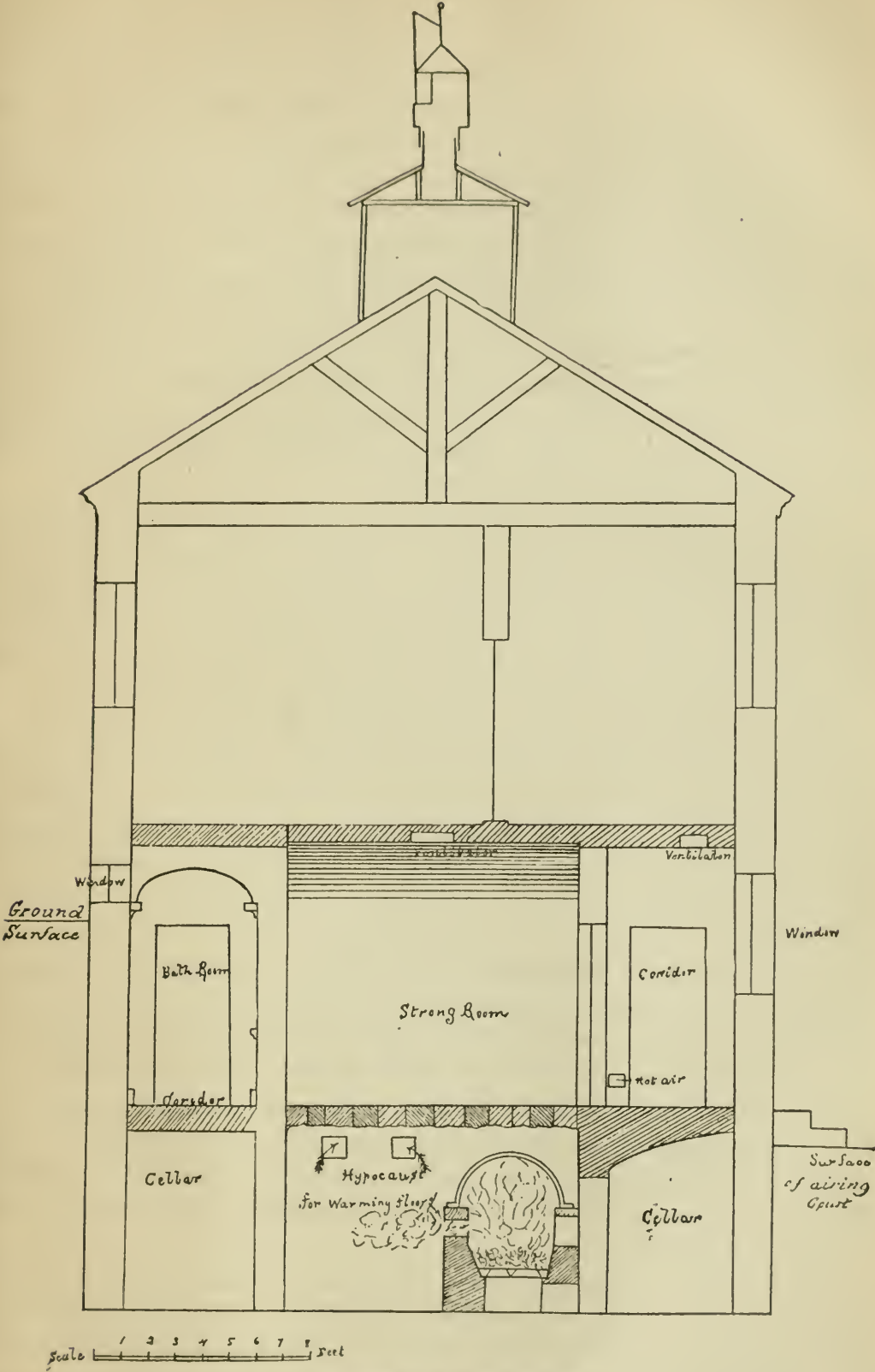
Adjoining the main corridor is the bath-room, and near that the room for clothing.

The interior of the rooms is as plain as possible, but in other parts there is as much of architectural ornamentation as the use of the building will allow.

The room for the attendants is at the head of the stairs directly over the "strong rooms," where they can be within hearing of their charge and reach them at once either night or day.

The drawings give in plan and section the details of the "lodge."

It appears from this description, which I have endeavored to make accurate, that the "lodge" had an airing court fifty-seven by fifty for the use of the patients. That the strong rooms are quite open and above ground on two sides; on the other sides they are partially below the surface; on all sides they are surrounded by corridors well lighted, well warmed, and ventilated. They are themselves fully lighted and warmed by two methods, each independent of the other; they are nowhere within five feet of the external wall, and have below them a cellar seven feet deep, also well warmed, lighted, and ventilated. A room



SECTION OF THE LODGE.

so situated, having but one of its six sides of stone, can hardly be described with scientific exactness as a "stone cell in a cellar." Few persons would suspect from the report of the board the true position and construction of these rooms, the amount of skill, thought, and experience which have been bestowed upon them, nor the degree of safe custody and comfort, without restraint upon the limbs, that they have brought to those who occupied them. I am quite sure that on no other part of the asylum did the physician exercise more fully his great talent for contriving and executing accommodations for the insane than here. This his numerous plans, sketches, and memoranda clearly show. I am equally sure that no patients received more care, or were more constantly in his thoughts, than the unfortunate persons for whom it was designed. It cannot be said of these rooms, as is said in the report of 1848 of those in the Worcester Asylum, that they are "rooms having the least advantages of light, none for ventilation, unfavorably located, dark, dreary, damp, and uncomfortable."

It may be interesting to know that when the report of the committee of our legislature in 1848, just referred to, was made, new strong rooms for females were being erected at Worcester from money appropriated by the State, and in 1850, these having been found good and well suited to their purpose, similar rooms were built for males; they were substantially imitations of the strong rooms of the McLean.

The idea that these rooms are in the cellar may have arisen from the fact that they may be reached in two ways: either by entering the left wing at the second story from the level of the ground of the centre house or mansion, and descending by the stairs to the level of the cellar of the wing; or they may be entered directly from the airing courts, above which they are raised by the usual underpinning of two feet, as is clearly shown by the elevation and section. The lower story of the new Bowditch ward, for excited patients, may be reached by an underground passage descending from the floor of the "lodge" by seventeen steps, but it is also entered directly from its airing court, the floor of the two buildings being about equally raised above their respective courts. The new Worcester Asylum, now nearly finished, owing to a similar formation of the ground, has a retaining wall of about half the height of that at the McLean, against which the rooms for the excited patients are placed. By no proper use of language can either be said to be in a cellar.

The size of the "strong rooms" as compared with rooms for excited patients in some other asylums deserves notice. At the Danvers State Asylum, now just finished, the rooms for excited patients, according to the official report, are seventy-two in number, each twelve feet long, eight feet wide, and eleven and one half feet high; at the McLean they are eleven feet long, seven and one half feet wide, and ten feet

high ; at the new Worcester State Asylum, nearly finished, they are ten feet long, eight and one half feet wide, and eight feet and eight inches high ; the cubic space for each patient at the Danvers is the greatest, the McLean next, and the Worcester last.

The materials of which the walls of the several rooms in these three asylums are constructed are substantially the same : in all they are of brick ; at Danvers and the McLean, plastered with Portland cement in the neatest and smoothest manner ; at Worcester, of bricks painted, without plaster. The McLean is the only one with rounded corners. The floors at Danvers and Worcester are of wood, not warmed ; those at the McLean are of stone, warmed.

The McLean "strong room" was provided with a comfortable mattress, or if this were destroyed with the best materials as a substitute that could be found. It had seats and a close-stool. By a strict rule of the asylum these rooms were the first visited in the morning. Every morning before breakfast the patient was bathed and placed in a similar adjoining room. Everything which had become soiled was removed, the room carefully washed, and the walls and floor carefully cleaned with transparent lime-water, which left the walls free from odor and visible lime deposit. The warm stone floor, besides the comfort it gives, must, in a sanitary point of view, be considered the best. It does not absorb offensive matter of any kind, — a very important fact if fæcal matter is the source of so much "germ disease," as sanitarians now assert ; it is quickly dried, and again fit for use. If really better than wood it should not be rejected because of its apparent harshness, and it would not be if we consider for a moment the condition of the patients. They have been accommodated elsewhere as long as possible. They are violent and raving in their excitement or delirium, pay little attention to their surroundings, and are so wanting in regard to the common decencies of life that, for the quiet and comfort of others as well as of themselves, their temporary seclusion has become a necessity. As to the floor itself, it is practically no harder than a hard pine floor ; neither yields to the pressure of the body.

Dr. Bell, in his report for 1839, after more than ten years' experience, says of these patients : "There are, it is true, certain cases where the mind is so frenzied and chaotic that the individual is reckless and unconscious of what he does ; here the provision of a suitable lodge room with stone floor, warmed by steam or hot air below, without glass or movable furniture, is the best and kindest appliance which can be adopted for a few days until medical and soothing treatment can place the sufferer in a condition to be operated upon by moral means. We never have had occasion, since the institution has been under my care, to use strong rooms as places of permanent detention, a few weeks being the extent of time which they have ever been occupied by a single person."

The following letter from the eminent alienist, Dr. Isaac Ray, gives his opinion of the "strong rooms," and their fitness for those who occupied them : —

MY DEAR SIR, — I recollect perfectly the rooms of the violent and excited patients at the McLean Asylum, to which you refer. They were in the basement story, and constructed very much like other patients' rooms. They opened upon a common corridor, some four or five feet wide, which was lighted by ordinary windows in the wall. This light passed into the rooms through an unglazed window by the side of the door. The floors were made of stone slabs, which were heated by a fire beneath, and thus the air was warmed by heat radiated from the floors. I always thought them very well fitted for their allotted purpose, that of keeping violent, raving patients, and I never saw them occupied by any others. They were justly regarded, I think, considerably in advance of any other existing means for keeping that description of patients. Of course improvements have followed the increase of means. The rooms now used for that purpose look out by a glazed window into a yard, the walls are smoothly plastered, the use of steam has led to a better method of warming, and the doors open upon a long, broad hall, tastefully wainscoted and painted. All these were very desirable, as anything is which gives a more cheerful aspect to the patient's surroundings. But they add little or nothing to the essential requisites of a strong-room, — freedom of movement, perfect cleanliness, good warmth, and ventilation, — and in these particulars the old lodge rooms have never been surpassed, to my knowledge.

Dr. Folsom speaks of the strong rooms at Worcester and at the McLean in the same breath, and in such a manner that an incautious reader might suppose there was little to choose between them. It would not be worth while now to describe the former. It is enough to say that they were destitute of the prime requisites just mentioned, while their surroundings were of the most repulsive character.

You are at liberty to make any use of this letter which will serve your purpose.

Yours truly,

I. RAY.

DR. WYMAN.

3509 BARING STREET, PHILADELPHIA, *September, 1877.*

Having corrected the errors of statement as to the rooms for the resident insane, I will now consider the state of knowledge with regard to insanity and its treatment at the McLean.

The report of the board assures us that the state of things which it assumes to have existed at the McLean in 1848 "simply indicated the general knowledge of the time," — a somewhat sweeping conclusion and not very precise in its meaning. It is reasonable to conclude, however, that whatever else was intended by the expression it means that the state of knowledge at that time was at a low ebb. It is possible,

too, that the generalization was first made in the interest of progress, and in seeking for facts in support of this statement the selection of the McLean is not quite happy. However this may be, as the McLean has been selected it is now proposed to show from memoranda and the report of its physician in 1825 the knowledge with regard to the treatment of the insane then existing. There is no reason to believe that this knowledge was less in 1848.

The report to the trustees from which the following extracts are made is dated March, 1825: —

“In constructing buildings for lunatics, their comfort, happiness, and cure should be regarded as the ultimate and all-important objects. Other objects contributing to the accomplishment of these great ends are of almost equal importance. Among these are provisions for the attendants conveniently to manage the patients and to execute the orders and directions of those to whom is confided the general superintendence of the institution. Upon the care, fidelity, and experience of the attendants, the quiet conduct and the eventual recovery of the boarders greatly depend. Suitable attendants cannot be procured unless their convenience in the discharge of their duties be duly regarded, or if procured must be often changed, and consequently they will never acquire the requisite experience.”

“Few persons who are qualified to have the oversight and to be the companions of the boarders will be willing to perform the menial services. Indeed, these services degrade the attendant in the opinion of those under his care, and render them less submissive and respectful in their deportment. He should therefore have an assistant. The attendant would be likely to remain in the asylum a long time, and the often changing of the assistant, if necessary, would be attended with little inconvenience.”

At this time the attendants, many of whom had been school-teachers, were selected with great care, usually on the recommendation of their clergymen. The principal attendants were required to keep journals recording the condition of those under their care and other matters pertaining to the administration of their office. This was done not only for the inspection of the physicians, but also to secure vigilance and close observation on the part of the attendants.

“The feelings and opinions of relatives and friends of lunatics must be consulted, for they are to select the residence of those under their care.”

“The public also must be consulted, for the institution, in a great degree, depends upon the charities of the public for its support, especially for the funds to defray the expenses of erecting its buildings. These contributions are to be expended with the greatest caution. Every measure and every plan should be well digested before any attempt to execute it.”

“The first great object presented is a proper classification of the subjects of a lunatic asylum. The evils to be avoided by an entire separation of males from females are so apparent that no arguments are needed to show its propriety. A further division of lunatics of either sex into distinct classes or families is not to be disputed. But the difficulties attending a suitable division are very great. These difficulties are various according to the form of government, the laws and customs of the country, and habits of the lunatics. In all cases the quiet are to be separated from the noisy and violent, the clean from the dirty, the clothed from the naked, and the latter from each other, that one patient should in the least possible degree disturb or offend another. Each division should form a little family, producing the greatest degree of comfort and happiness of which its members are susceptible. Some individuals who are much disturbed by noise require the most perfect seclusion and solitude; for these two rooms are so constructed and so situated that they may be suitably accommodated. They will also answer for ordinary sleeping rooms.”

“There are lunatic males who are generally tranquil, harmless, susceptible of much enjoyment, capable of walking abroad without an attendant, and in fact requiring little or no restraint. Their friends find it necessary to send such persons from home. They desire for them large, handsome, and convenient apartments, and sometimes accommodations for a servant. They are willing to pay in proportion to the accommodations required. Such boarders may constitute a single family, called *house boarders*, and have apartments in the connecting wings and front part of the centre house.”

One or more boarders were always at the physician's table, had rooms in the mansion house, and mingled with his family, went to Boston and elsewhere, and always without an attendant. The more quiet also passed their evenings in the physician's family, and always appeared and were treated like other gentlemen. Some occupied themselves for months together as teachers of the physician's children, with advantage to both.

“Class I. Other lunatics, whose friends may wish for them handsome rooms and galleries, and have the means of paying the necessary expenses, still require to be restrained, and their rooms and airing courts must be so constructed that they cannot easily escape. These may constitute the first class, occupy one wing, and be divided into three families, each living in a single story. The convalescents and most tranquil may take the upper story, the most noisy and turbulent may take the basement story, and the remainder may take the middle story.”

“Class II. A second class, requiring to be restrained, may occupy the other wing. Neither their habits of life nor their pecuniary means will

require or permit the rooms of this class to be finished or furnished in a style so expensive as those of the first class. They may, however, be provided with every comfort and convenience to be found in the apartments of the other class, and have everything adapted to their habits and feelings. This class will also be divided into three families, to be distributed in the several stories as is contemplated for the first class. Provision is made for a further and temporary division of apartments whenever any particular boarders are found to have aversions to each other."

"The wings thus improved would contain accommodations for the quiet, the sick, and those who are not excessively noisy."

"Class III. The very noisy, dirty, and violent patients will form a third class. They may possibly be kept in the wing for the second class. But it is believed a distinct building is to be preferred. Apartments may be provided in the same building for idiots and epileptics. The principal objection to this separation is that the worst patients being far removed would be likely to be neglected. But the comfort and tranquillity of the other patients require the removal, and the neglect must be prevented by increased vigilance."

We here see some of the reasons for the selection of the site for the "lodge" for this class. It is as closely connected with the wing as possible, and yet detached; the four rooms, which were more than sufficient for their accommodation, were upon that side farthest removed from the other buildings, so that noise and shoutings could not be heard in them; this allowed the free opening of the windows of the lodge at all times.

"The proper situation of the day rooms (or parlors) is a subject on which competent judges entertain different opinions. In several well-approved institutions all the day rooms are on the first or first and second stories. Under this arrangement those who occupy the upper story are during the day removed far from their sleeping rooms. It is true they have a more easy access to their airing courts, and the attendants who keep in the day rooms can more readily afford assistance to each other as it may be needed. But when the sleeping rooms join the galleries and are immediately connected with the day rooms, the members of the family occupying the same are under less restraint and have a greater variety of accommodations. If sitting in the day room become unpleasant, the gallery is at hand for walking, and the airing court is sufficiently easy of access. If a patient be feeble or wearied, and desirous of passing an hour upon his bed, or if he prefer to write or read without the presence of others, his room is near and within the hearing and call of his attendant. These reasons seem to be conclusive for placing the sleeping rooms, day rooms, and galleries contiguous to each other and in the same story."

“The principal objections likely to be urged against this plan are that the classes will be too numerous for quiet or safety, and will require the day rooms (parlors) to be too large. These objections do not appear to me to be valid or in any way proportional to the advantages gained.”

Great differences of opinion have existed among those in charge of the insane as to the extent to which classification should be carried. The plan here given and adopted approached individualization. Dr. Bell thought it was carried too far. Of late the opinion has been gaining ground, especially in Europe, that a “strictly individual treatment” is needed. This cannot be approached without a classification at least as detailed as that adopted here more than half a century ago.

“The centre of each wing may be carried up so as to form large halls for the exercise of the boarders in the winter and in stormy weather. Work rooms may be here constructed in which the exercise of some mechanic arts will not disturb the patients in the lower stories.”

“The committees and the board of trustees may hold their meetings in the mansion house, some part of which may be used for the chapel.”

The physician was descended of a Puritan stock; he believed in the stated religious observance of the Sabbath; he had written in its defense, and believed what he wrote. The patients who were able attended divine service in the neighboring churches. Religious services were also held in the wings Sunday evenings; during which the physician read a sermon to those who were well enough and desired to attend.

“Each family is also provided with dining and work rooms, a separate airing court, and has access to it by separate stairs, that the members of different families may not mix together. The courts are so arranged that patients in an improved state of mind will not see those who are in a worse condition.”

“Two rooms are provided for those who need inspection during the night.”

“The present garden for the exercise of the male boarders would be contiguous to their airing courts, but the boarders of one sex could not see those of the other during their exercise or amusements. The hill to be formed in glaxis for walks, ornamented with trees and shrubbery.”

“In front of each connecting wing is a small court and a low building which is designed for house boarders who may be sick and cannot be removed to either wing or retained in the centre house. Small buildings of one story may be erected in the rear and front yards, as shown in the plans. Their height will not obstruct the view from other houses. This is a want which ought not to be overlooked.”

We have here a plan of small, detached, one-story hospital buildings, much after that now so strongly advocated, and within a few years

adopted by the other branch of the Massachusetts General Hospital in Boston.

“Near the broad steps of the stairs are holes through which the galleries and day rooms may be inspected; similar holes are in the walls of the dining-rooms for viewing the tables, etc.; as a like provision is made in each story the whole wing may be inspected without the knowledge of the boarders or attendants. Through these apertures the friends of a patient may see him without exposing him to the dangers of a visit.”

Unceasing vigilance is the safety of the insane. These conveniences for the unexpected inspection of the boarders by their friends are a part of a plan. When the boarders were in the airing courts they were seen by their friends from the mansion house through a fine telescope mounted for the purpose. Few better arrangements could be devised for giving friends confidence in the treatment pursued. There may be objection to patients seeing their friends, but none to the friends seeing the patients. The influence of such a system upon all connected with the institution is obvious.

The report is accompanied by detailed plans, in accordance with which the buildings were soon after erected.

As has already been stated, some of the boarders were quite at liberty to come and go as they pleased. These found their own occupation and amusement; one was a frequent visitor at the reading-room of the Boston Athenæum, and might have been seen daily among the literary gentlemen who associated there. A constant effort was made to increase the means of occupation and amusement for all. Walking in the airing courts or in the country with attendants, going to church on Sunday, visiting places of interest on other days, were the most common, or riding in open wagons in pleasant weather. Soon afterwards the physician was “authorized to procure a carriage and pair of horses to be used at the McLean Asylum for the insane, for the purpose of giving air and exercise to the boarders.”¹ These rides were then, as now, taken in the neighboring country. They were of necessity confined to those who were comparatively quiet and well behaved. But there were others who needed air and exercise even more than these; for such a carriage-way of nearly half a mile in circuit was made round the garden, where they could ride and where neither their noise nor their appearance would disturb any. A row-boat upon Charles River, then attractive and unpolluted, was in frequent use, affording an amusement particularly relished by those who had been sailors, of whom the asylum usually contained several.

In summer, excursions in the harbor in large boats gave a pleasant sail, a run upon the islands, a chowder on board, and all the enjoyment

¹ Bowditch's History of the Massachusetts General Hospital, page 84.

of a day from home. There was bowling, gardening, the exercise of the mechanic arts, books, papers, and various games. Chess was a favorite with some; the physician was an excellent player, and not unfrequently met with a worthy antagonist among his boarders.

Such was the state of knowledge and such the condition of the several classes of boarders at the McLean fifty years ago, widely different from what is intended to be conveyed by the report of the Board of Health.

"The position and condition of the more quiet of the insane were much better of course," says the report of the board, "but it was reserved for further study and experience to show that the most violent may be treated to a certain extent in a similar way." In expressing this opinion it is to be regretted that we have no account of this improved treatment. Indeed, very little is said, either directly or by the correspondents with regard to the "most violent." We read much — and very pleasant reading it is — of those in England and Scotland whose occupations and treatment seem to be much like that just described as existing here, but I fail to find a satisfactory description of the other class, of their treatment and apartments, either here or abroad. The study and experience of a Scotch physician as late as 1875¹ have convinced him that seclusion is the best for "those who use coarseness of language" and for the "destructive;" of these last two or three cases have occurred in his asylum in a year. To what extent seclusion is carried we have no means of knowing, nor have we any means of knowing if any destroy their clothing and bedding. There are probably such cases in Europe; we certainly have them in Massachusetts. The report gives us no intimation of the proportion of such cases nor of their treatment, either here or abroad; instead of "well-known historic facts" from which to judge of the progress in treating the "most violent" like the more quiet, we have an opinion. But in estimating the value of this opinion we must remember that the point of comparison, the "stone cells in the cellar," is proved not to exist; indeed the whole spirit of the sentence, so far as the McLean Asylum is concerned, shows an absence of a just appreciation of the knowledge and practice of the two physicians who had charge of it through the first half of its existence.

A more ornamental architecture may have been devised, and, it may be, some minor advantageous changes on details in the hope of "hiding by their comfortable and cheerful arrangements the necessities of restraint," but other than these, from my own observation, I do not believe that in either of the two asylums now being built at the expense of the State the arrangements for lighting, warming, and ventilating the apartments for the treatment and safe custody of the "most violent" insane are material improvements over those in use at the McLean fifty years ago.

¹ Report, page 367.

Of the experiments which have been tried here with a reasonable hope of success, some have led to important changes in treatment ; some have been repeated abroad, and after a short trial accounts of them reach us as novelties. Dr. Bell in his final report, after twenty years' service, has some instructive remarks on this subject.

It is now demonstrated :

(1.) That the report has not fairly represented the apartments of the violent male insane at the McLean, nor their treatment during the first thirty years of its existence.

(2.) That the report has not fairly represented the state of knowledge at the McLean with regard to insanity, nor the treatment there of the insane generally during the same period.

The report has been written, printed, and distributed at the expense of the State ; it bears the seal of the Commonwealth ; it goes forth to the people for whom it is written as a historical state document, and takes its place in public libraries bearing an authority which belongs to no individual ; its statements, therefore, should be cautiously made and carefully verified. It is to be hoped, inasmuch as the board has elsewhere been pleased to make favorable mention of my father's services, that the facts here presented under a sense of filial duty will also induce it to correct any errors prejudicial to his merits into which it may have fallen. As the first physician of the McLean he laid well and deep the foundation of a class of public charities before unknown in New England ; he devoted himself to the one great object of his life with an untiring energy and fidelity scarcely to be equaled ; the evidence of the operations of his mind are still obvious in the mechanical and architectural arrangements and in the moral *régime* and internal system of most of the institutions for the insane in the land. Such services I would not have forgotten or undervalued in a history of insanity by an official board of his native State.

CAMBRIDGE, December, 1877.

CHLORODYNE.

BY JOHN H. GILMAN, M. D., LOWELL.

THE above fanciful name was first applied by J. Collis Brown, of London, to a preparation which he originated and prescribed for the relief of pain. This valuable remedy is often prescribed by physicians, but unfortunately its exact composition has never been made public, though the principal agents composing it are well known to the profession. Many formulæ of chlorodyne have been published, differing widely in the proportion of their ingredients, but not materially in the ingredients themselves. In the original article and all the published substitutes that I have seen, the method of combining the ingredients of the preparation is both faulty and unscientific, being in fact the mixture

with treacle of certain articles, which are insoluble in it, which separate on standing, and which require to be shaken together when used. Some time ago I made some experiments with the object of producing a chlorodyne in which all its ingredients should be so combined as to form a perfectly clear solution, which could be diluted with water without separating into its component parts, and a preparation of which each dose should contain a definite quantity of each active ingredient. Taking advantage of the fact that chloroform is soluble in glycerine (one part to six or seven), I have added glycerine to my formula to replace part of the treacle, in order to render the chlorodyne a perfect solution. As elixirs are now fashionable I have given this preparation the technical name of *Elixir Chloroformi Compositum* (Chlorodyne):

R̄ Chloroformi	3 ij.
Glycerinæ	3 ij.
Spts. vini rectificati	3 ij.
Spts. menthæ piperitæ	3 ij.
Acid. hydrocyanici diluti	3 ij.
Tinct. capsici	3 ij.
Morphiæ muriatis	gr. viij.
Syrupi (treacle)	3 iij. M.

Dose for an adult, one teaspoonful; for a child one year old, three to five drops, diluted with water, repeated at proper intervals if necessary.

A fluid drachm contains two minims each of chloroform, dilute hydrocyanic acid, tinct. capsicum, and essence of peppermint; also, an eighth of a grain of morphine. The treacle employed should be the best sugar-house molasses (golden syrup), so that the chlorodyne will have a fine appearance.

This chlorodyne requires no special skill to compound, and is equal to any for the relief of pain, vomiting, cholera morbus, etc. The dose of this preparation, it should be remembered, is greater than that of Brown's chlorodyne.

RECENT PROGRESS IN DERMATOLOGY.¹

BY JAMES C. WHITE, M. D.

Pompholyx. Dysidrosis. — Dr. A. R. Robinson, of New York, communicates,² in a valuable article upon this affection, the results of a thorough study of its pathological histology. The disease, described by Fox in 1873 as dysidrosis, and by Hutchinson in 1876 as cheiro-pompholyx, is characterized by the development of vesicles and bullæ, mostly upon the lateral surfaces of the fingers and upon the palms. The efflorescence is deeply situated, does not rupture easily, and resembles sago grains. Fox has maintained that the contents of the vesicles were sweat, and that the affection was one of these glands or their ducts. This

¹ Concluded from page 656.

² Archives of Dermatology, vol. iii., No. 4.

opinion was dissented from at the time of its publication,¹ and Mr. Hutchinson describes the collection of fluid as serous, but not eczematous. Dr. Robinson reviews our knowledge of the structural anatomy of vesicles and bullæ in all affections in which they are known to occur, and then proceeds to give the changes in the skin in this affection as he has studied them. These changes are described with great minuteness, and are illustrated by several well-drawn figures. He found that the fluid within the vesicles was alkaline, contained out-wandered white blood corpuscles, and was highly albuminous, to the same degree as serum. The sweat glands and ducts were found to be perfectly normal. The vesicles were apparently formed, as the inflammatory vesicle is, by the escape of fluid from the papillæ, which is effused at first between the cells of the rete at all levels, and they enlarge by the breaking away of the cell partitions between separate chambers. By the union of such single vesicles large bullæ may be formed. In the later stages dilatation of the papillary vessels and abundant cell infiltration in the corium occur. Dr. Robinson regards the disease as a neurosis, and distinct from previously known vesicular or bullous affections. We fail to see, however, in what respect the eruption differs anatomically from a dermatitis, or clinically from the vesicles upon the same parts in rhus poisoning or some forms of palmar eczema.

Bullous Eruption due to Iodide of Potassium.—Dr. Van Harlingen publishes² the report of a lecture by Dr. Duhring, of Philadelphia, upon a rare form of eruption situated upon the hands, arms, groins, and feet, in a patient who had been taking iodide of potassium for eczema. The efflorescences were vesicles of all sizes up to that of a pea, becoming confluent and forming bullæ. They contained a clear, serous fluid, and were seated upon a slightly hyperæmic but not inflamed base. In their early stage they resembled upon the hands the eruption in the so-called dysidrosis, but when older they became semi-opaque and shriveled, and dried up without forming crusts. The lesions disappeared in a few days after discontinuing the use of the drug. None of the ordinary follicular inflammation produced by it was observed.

Purpura produced by Iodine.—M. Fournier describes³ a new effect of this drug upon the cutaneous tissues, the production of petechiæ. In all the cases observed, the eruption of the purpura took place a few days after the administration of the iodide of potassium, in a period of from one to six days. In some of the patients the same effect followed each fresh administration of the iodide, while in one of them each marked elevation of the dose during treatment was accompanied by a revival of the eruption. In all cases but one the eruption occupied the

¹ Semi-Annual Report of Dermatology, June, 1873.

² Philadelphia Medical and Surgical Reporter, August 4, 1877.

³ Le Mouvement médical, No. 37, 1877.

anterior tibial surface; in that one the trunk was affected. The form of the eruption was miliary. It was unaccompanied by subjective symptoms, and disappeared spontaneously in two or three weeks. M. Fournier can find nothing to explain its occurrence but individual predisposition.

Multiple, monolateral Nævus. — Prof. J. N. Hyde, of Chicago, reports¹ a remarkable case of pigmented nævus, distributed in the form of bands of more or less scattered moles of varying depth of color upon the left side of the trunk. The regions of distribution, four in number, corresponded closely to those most commonly occupied by herpes zoster of the trunk, and nowhere extended beyond the median line of the body. They were regions supplied by the anterior branches of the lateral cutaneous nerves. The moles were congenital, or developed soon after birth, and indicated, according to Dr. Hyde, intra-uterine perturbations of the nervous ganglia of the fœtus. The distribution of vascular nævi in some instances, as first pointed out by Bärensprung, supports this view, and Simon² feels warranted from the study of certain cases to introduce the term “Nerven-nævi” to express the intimate relationship between their distribution and that of the cutaneous nerves.

Argyria. — Neumann publishes³ a long account of the changes which take place in the tissues of the body in this affection (staining by the internal use of nitrate of silver). He gives the particulars of a case in which the microscopical investigation of the cutaneous tissues was made by himself, with illustrations of the appearances presented. They are identical with those discovered by Riemer, and are described at length in a former report.⁴

Alopecia Areata. — P. Michelson publishes⁵ a long paper upon the ætiology of this affection, in which he gives an extended review of the various opinions which have been held by past and present writers, and gives two cases, with drawings of the microscopic appearances of the affected hairs. He finds no evidence of its parasitic nature. The anatomical changes, according to his investigations, consist mainly in an atrophy of the intra-cutaneous portions of the hair. The neurotic nature of the affection he regards as purely hypothetical, and believes that the phenomena may be as explicable by a local, circumscribed failure in nutrition from occlusion of the cutaneous vessels. It cannot be said that the article adds much to our previous knowledge.

The Treatment of Lupus. — Dr. Piffard,⁶ in a paper read before the New York State Medical Society in June last, speaks at length of the

¹ Chicago Medical Journal and Examiner, October, 1877.

² Archiv für Dermat. und Syph., iv. Jahrg., erstes Heft.

³ Stricker's medizinische Jahrbücher, iii. Heft, 1877.

⁴ JOURNAL, December 9, 1875.

⁵ Ueber Herpes tonsurans und Area Celsi. Volkmann's Sammlung klin. Vorträge, No. 120.

⁶ New York Medical Record, July 21, 1877.

comparative merits of various methods of treating the disease. The result of his own experience is formulated as follows:—

	Successful.	Unsuccessful.
Scraping and chloride of zinc	0	4
Chloride of zinc (lesion very small)	1	0
Scraping and nitrate of silver	0	1
Actual cautery	4	2
Excision	6	2
Excision and actual cautery	1	0
Scraping and actual cautery	4	0

He prefers the method of thoroughly scraping out as much of the lesion as possible, and then cauterizing the floor and edges of the wound with the actual cautery at a white heat. Success is in direct proportion to thoroughness of removal of the lupous cells.

Leprosy in Mauritius.—Dr. Labonté, from observation and local experience of the disease, which has lately become very prevalent there, concludes¹ that it is a dyscrasia. That its incubation is uncertain, being met with at different periods of life, but the period of puberty would seem to be most favorable for its development. That sex has no influence over the disease. That habitual residence, so far as the population is concerned, is of no consequence. That Asiatics and creoles are especially liable to it; but that Europeans are under the same liability when in the colonies. That diet influences the disease, low as high living being equally bad. That the poison of syphilis concurs in a large number of cases to produce results very similar to what that of leprosy itself produces. That his experience does not warrant the opinion that the disease is catching, but direct inoculation is to his mind a certain way of transmitting it from the sick to the healthy, and vaccination is one of the means by which this is effected. That, finally, the disease is hereditary beyond doubt.

Leprosy in the Sandwich Islands.—Dr. F. H. Enders makes a communication² on the present condition of the disease after a residence long enough to have seen over four hundred cases. He is strongly inclined to the belief that it is “an offspring of syphilis,” for he has found but two lepers in which there could be a doubt of the preëxistence of syphilis. He has seen only four cases among Europeans, but finds it most rife where there is most prostitution. He believes that the disease is hereditary, but has not formed a positive opinion as to its contagiousness. Since the establishment of the asylum of segregation and the strict enforcement of the health laws, he states, the number of cases at large is very small and the disease is upon the decrease.

Dr. Enders’s views concerning the relationship between leprosy and syphilis are of course not those held by the majority of observers and pathologists, and no more unfavorable field for the study of such con-

¹ Edinburgh Medical Journal, September, 1877.

² Louisville Medical News, September 29, 1877.

nection could be found than amongst a people so thoroughly syphilized as the natives of the Hawaiian Islands. That the disease is very frequently, perhaps most generally, communicated, like syphilis, by sexual intercourse, there can be little doubt. With regard to treatment he has little of value to offer.

Pruritus Cutaneus. — Dr. R. W. Taylor, of New York, presents, in a paper¹ read before the Burlington Medical and Surgical Club, the chief causes of this distressing affection in its various forms, and gives at great length the indications for internal treatment, and in detail all the remedies which have been found to be of service in the form of local applications. The great number of the latter mentioned by him is the most conclusive evidence of the inefficacy of them at all times. Yet from this complete list of formulæ and simples one ought *almost* always to be able to select the means of affording relief to the agitated cutaneous nerves. We wish that Dr. Taylor had informed his hearers what active or efficient principle other than spirit and water the “extract of hamamelis” contains, which he mentions as a household remedy.

Cysticercus of the Skin. — Dr. Guttman reported² to the Berlin Medical Society the case of a patient who presented under the skin of various parts of the body a number of little tumors, easily movable, elastic or cartilaginous in feel, round or oval in shape, and varying in size from a cherry-stone to a small filbert. They were not at all painful on pressure. They had attracted the patient's attention about Christmas time, and in February, when he was first seen by Dr. Guttman, they had increased to twenty in number. A few weeks later more than thirty were to be seen and felt. Some of the tumors, which were situated immediately beneath the skin, were cut out and found to be cysts of the cysticercus cellulosa, and one of them contained even the ripe joints of tænia solium with ova. That the infection of the patient was recent was shown by the continual fresh appearance beneath the skin of the wandering embryos.

Demodex Folliculorum. — M. Meguin publishes a paper³ upon this parasite of the sebaceous glands. It does not belong to the same family (sarcoptides) as the itch insect, but forms the only genus of a family of demodicides. There is but a single species occurring upon man, those inhabiting the hair and sebaceous follicles of the dog, cat, sheep, and other animals being distinct, and are not transferable to the skin of the former.

The Use of Natural Baths in Skin Diseases. — M. C.-A. Carry expresses⁴ the opinion that the reputation which baths have in the treat-

¹ Archives of Clinical Surgery, August, 1877.

² Berlin. klin. Wochenschrift, June 25, 1877.

³ Robin's Journ. d'Anat., March, 1877.

⁴ Le Mouvement médical, No. 39, 1877.

ment of affections of the skin is factitious. That in reality in the few diseases in which they are of any service their action is never curative. In affections due to an external cause they serve to cleanse the skin and may destroy parasites of an animal nature, but have little effect over those of a vegetable nature. In scrofulous and syphilitic diseases baths by their tonic and stimulating effects are often good adjuvants to general treatment. Their local influence in dry forms of eruption is purely hygienic and in no way curative, while in the moist forms they are nearly always an obstacle to recovery. With which opinions most observers outside of watering-places would generally concur.

On the Use and Action of the Continual Bath. — Dr. Hans Hebra begins¹ a series of articles upon this method of treatment in skin diseases, which are to contain the results of its employment by his distinguished father during the fifteen years in which it has been used. The first paper, which has alone reached us, contains a general description of the bath and of its physiological effects. It consists of a tub well supplied with woolen and linen coverings upon which the patient rests, with pillows, and with the proper means of regulating the temperature of the water. In this water-bed the patient, if accustomed to lie in bed, is as comfortable as in a dry bed. The appetite, stools, and urine are normal, the respiration is natural, and there is none of that weakness observed which is supposed to result from a prolonged bath. During the first four or five days there is no change in the skin, excepting a slight sodden condition of the epidermis of the fingers and toes. After this time with nearly all persons, especially with those having corns, there is severe pain for some days in the soles of the feet. In patients with tender skins there is often developed between the eighth and fourteenth day a more or less extensive artificial, papular eczema, accompanied by severe itching. Rubbing with oleum rusci always suffices to make it disappear in a short time. This is the only disturbance, local or constitutional, which has ever been observed among some five hundred persons who have used the bath for continuous periods varying from a few days to three or four months. Among the patients were many women, in whom the function of menstruation went on without disturbance.

The action of the bath upon burns and in pemphigus is given, but the results will be deferred in this report until the papers are complete.

Iron Soap in Skin Diseases. — Professor Behr strongly recommends² Kral's liquid iron soap as an application in the treatment of ulcers, pruritus cutaneus, epithelioma, comedones, etc.

¹ Wiener med. Wochenschrift, No. 36, 1877.

² Allg. Wiener med. Zeitung, May 22, 1877.

EXTRACTS FROM THE RECORDS OF THE ROXBURY
SOCIETY FOR MEDICAL IMPROVEMENT.

F. W. GOSS, M. D., SECRETARY.

MARCH, 1877. *Digitalis in Pneumonia.* — DR. EDES reported a case of pneumonia to which he had been called on the previous Monday. On Tuesday the temperature was 103° F., respiration not very rapid, pulse 140. On Wednesday the patient was seemingly worse, pulse 160. He gave digitalis, six grains, during the next day, without diminishing the pulse. On Friday he gave eleven grains, and the pulse came down to 92, then to 80, and the patient was now recovering.

In reply to a question whether the fall of the pulse was not due to the fact that the disease had passed its crisis, he said he believed its diminution to have been due to the administration of digitalis. He considered so rapid a pulse as here reported usually to indicate great danger, and he was at a loss to account for its frequency while the temperature and respiration were not indicative of grave sickness. Whether the fact that the disease was at the apex of the lung had anything to do with the acceleration of the pulse he could not tell.

At a subsequent meeting Dr. Edes read the following paper regarding the case referred to :—

It may possibly be remembered that at a previous meeting of this club I reported a case of pneumonia in which a pulse of 160 was spoken of as being a very unusual occurrence in a mild case. In the comments made upon this case it was suggested that such a pulse was *not* unusual, and that a fall from this frequency to the neighborhood of the normal was merely the natural termination of the disease, and something which might be frequently observed.

I was of course unable at the time to oppose to a general statement of this kind anything but a general though very decided opinion to the contrary, but I have since consulted both records and authors, and propose to show

(1.) That in pneumonia a pulse of 140, and, *a fortiori*, one of 160, is an exceedingly grave symptom, usually of fatal import. That the pulse in a general way keeps pace with the severity of other symptoms.

(2.) That the fall of pulse in my case from 160 to 92 beats, that is, of 68 beats, in twenty-four hours, was not from the normal defervescence, or perhaps, to be more strictly accurate, that the previous pulse was not a febrile one.

I have collected from the hospital books and my private notes a considerable number of cases of pneumonia, and have compared with them the report of Dr. Borland in the City Hospital Reports, published in 1870.

In the records of fifty-two cases examined a pulse of 160 is noted once, 150+ once, 150 once, and 180 once. All these cases died, the maximum pulse occurring just before death. In Dr. Borland's one hundred and ninety cases, many of them complicated, a pulse of 150 to 160 is noted once in a fatal case. That is, in two hundred and forty-two cases a pulse of 150 was observed only as an immediate precursor of dissolution.

A pulse of 140 or more is a serious and alarming symptom. I find it in ten of my cases, of which only three recovered, one being a boy of eleven,

the others both having been extremely sick. It is recorded in seven of Dr. Borland's cases, two of which died. Of the five which recovered one was a child of three and a half, one of fifteen, one complicated with pericarditis, and one with cellulitis. With a pulse of 130 my list shows eight cases, three deaths. Dr. Borland's six cases, two deaths.

That these cases agree with the general experience is shown by the statements of authorities. Oppolzer says that the pulse reaches in most cases a frequency of about 100 beats in the minute, but in *severe* cases may arrive at 120 to 130, or even 150 or more. A pneumonia in which the pulse exceeds 100, or reaches 120 or more, gives occasion for serious fears.

Niemeyer says the pulse in severe cases may reach or even exceed 130 to 150. The American edition of Aitken says the rapidity of the pulse is with rare exceptions in direct ratio with the extent and severity of the disorder.

As to the natural resolution of the disease. The fall of pulse and of temperature is no doubt very often, and indeed usually, a rapid or even almost sudden one. My case, as well as many others, would undoubtedly be more interesting if temperature and pulse had been taken at intervals of two or three hours, but this is a delicacy of observation we are seldom able to attain.

Not having found another case of recovery with a pulse of 160, I cannot find a parallel to my own, and the determination of such a resemblance is not quite so easy as the mere observation of maximum pulse and temperature. In all the cases where pulse and temperature were both carefully observed and noted it appeared that the temperature, with a few unimportant exceptions, fell either as soon as or a little before the pulse.

In the exceptions referred to, where the pulse and temperature have gone in opposite directions, or where the pulse has preceded the temperature, the movement has been but slight, a sort of preliminary, as it were, to the marked and rapid change. In my case the thermometer fell but a quarter of a degree, while the pulse fell seventy beats.

This fall in the pulse took place after the administration of digitalis. That it was the effect of this administration I am unable to prove. If, however, the acceleration of the pulse was the result of a temporary paralysis of the pneumogastric nerve and not of the fever, as I think I have shown it not to have been, the phenomena are exactly in accordance with the well-known physiological action of this drug, namely, a stimulating effect upon the pneumogastric. Why is it less philosophical or scientific to refer an effect to a cause which is well known to produce similar effects in other cases than to refer it to a spontaneous action entirely at variance with the natural history of the disease we have been discussing?

SEPTEMBER, 1877. *Electro-Therapeutics.* — DR. WILLIAMS, the reporter for the evening, made some remarks on electricity as a medical agent. He stated that the agent had been before the profession for nearly one hundred years, yet its legitimate place in medicine was still unsettled. The theory of its employment was fascinating on account of its supposed resemblance to the natural nerve force. This theory had led to much exaggeration of its therapeutical powers. He would rank it as of about the same value as arsenic in

medicine. It had certain specific properties, and would do certain specific things which scarcely anything else would do, but could hardly be rated among medicinal agents of the first class.

If a mild galvanic current is passed along a limb, a slight crawling or tingling sensation is produced; as its power is increased the sensation becomes painful and burning, at length unendurably so. It will produce vesication and even cauterization of the parts. Its action, therefore, is that of an irritant. The galvano-caustic is the intensification of this action.

Its chief use in medicine is as a counter-irritant. It is especially useful in neuralgia and muscular rheumatism. It has this advantage over other agents of the same sort, that its effects can be better localized and made to penetrate more deeply into the tissues than that of a blister or liniment. Its value in neuralgia is quite unique. It is, however, an empirical mode of treatment, like that by subcutaneous injections. Neuralgia in the majority of cases is due to local irritation acting directly or reflexively on a nerve. This view was not sufficiently recognized, but the speaker was satisfied of its truth from a careful analysis of private cases. The treatment of the primary lesion is therefore the scientific method in neuralgia.

When a galvanic current of moderate strength is passing continuously through a muscle, no effect is produced; but if the current be suddenly broken, or if, after being broken, is suddenly connected again, muscular contraction takes place. It is not the current itself but the opening and shutting of it which produces contraction. Such is the principle of the faradic or interrupted current, whose specific property is the production of muscular contraction. This form of electricity was introduced into medical practice by Duchenne. It is to be used as a means of exercising a paralyzed muscle and thus preventing the secondary degeneration and atrophy of muscular and nervous fibre which is apt to take place in a paralyzed limb, especially in cases of local or eccentric paralysis. In cases of centric disease these changes come on more slowly. Moreover, the stimulating action of the interrupted current contraindicates its use in diseases of the nervous centres, in which it may be productive of serious injury. Its main use, therefore, is in cases of eccentric paralysis. It may be regarded as a form of passive motion.

It has been found that there is a certain spot or there are spots over each muscle where the pole of the instrument must be applied in order to produce the most vigorous contractions. This important fact was discovered by Duchenne, and the places were subsequently shown by Remak to be the points where the nerves lie nearest the surface. A knowledge of these points is essential to the practical employment of the faradic battery. Their situation is conveniently indicated on a set of plates published by Ziemssen.

In certain cases of paralysis the interrupted current fails to produce contractions when the constant current will, for reasons difficult to assign. In such cases the latter should be used. Sometimes a change from one to the other is beneficial.

The power of the galvanic current to produce coagulation of the blood has led to its being tried for the cure of aneurisms. It has been recommended also for the discussion of tumors, in which it probably has the same action as

other irritants and caustics. The superior advantages of the galvano-cautery in general surgery were fully recognized.

There are many other uses of the constant current advocated by Remak and most of the German writers on the subject. The former, a clever but erratic genius, attempted to set himself up as the special champion of the constant current in opposition to Duchenne, the introducer and chief advocate of the interrupted current. Many of the statements and pretensions of Remak have been proved to be entirely erroneous, and the question of the real value of the constant current in medicine is still *sub judice*. It is probably of much less utility than its German adherents have claimed.

DR. SEAVERNS remarked that he believed we had yet much to learn regarding electricity, and he considered it to be a valuable therapeutical agent. In neuralgias the interrupted current had often seemed to him to have an irritant effect, while that of the constant current was soothing. He had at times found the employment of electricity in centric troubles to be harmful.

DR. NICHOLS said that the muscular contraction accompanying the application of electricity is not due altogether to reflex action. In a muscle separated from the body we find that contractions will take place from the application of various forms of irritation.

DR. S. G. WEBBER, who was present by invitation, remarked that electricity has been overpraised by some, and too readily condemned by others. There is a temptation to use it in a routine way. The galvanic current is of use to relieve pain; he would hardly agree with Dr. Williams that it is even chiefly a counter-irritant. A very mild current, so mild as to cause no irritation, will both soothe a limb and change its temperature. Pain from whatever cause may often be alleviated, whether neuralgic, rheumatic, or even if caused by necrosed bone. Electricity when passing through a wire, if there is another metallic body near it, will change the electrical condition of the latter by induction, and the change of electrical state of the body or its tissues by induction may have a beneficial effect, though the laws by which these effects are produced are not yet sufficiently well known. The faradic current is not of use for the relief of pain except occasionally, and then by counter-irritation. The application of as strong an interrupted current as the patient can bear has been recommended of late in the treatment of acute rheumatism.

Dr. Webber used to be skeptical as to the value of the interrupted current in paralysis from centric lesion, as in hemiplegia, but he has frequently found patients benefited up to a certain point as to the use of their limbs and the diminution of discomfort; beyond that point benefit does not go. If benefit is to come it usually shows itself within a few weeks at most. Harm may result from using the agent too soon and too harshly. Use a current that is not painful to the patient and just barely strong enough to move the muscles slightly. In peripheral paralysis the faradic current may or may not be of use; if not, try the galvanic. He could hardly agree with Dr. Williams that it prevents atrophy of the muscles; they will degenerate while electricity is being used, and cease to respond to the current on account of such degeneration. To relieve spasm electricity may be of use, but not in that coming on in hemiplegia two or three months after its occurrence. It is of no use in such cases.

Spasms of a different kind, as clonic spasm of the sterno-mastoid, may be relieved by applying the galvanic current to the back of the neck and to the affected muscle, and it may sometimes be assisted by applying the faradic to the opposite well muscle.

One of the most important uses of electricity is for diagnosis; for example, if in facial paralysis from cold the muscles do not respond, we can say the cause of the paralysis is not in the brain itself, and, if no other symptoms point to cerebral lesion, may assure the patient there is none. So sometimes we can ascertain in paralysis of the limbs whether there has been centric lesion or not. If there is no response to the faradic current, it is one aid in locating the lesion in the nerve itself or in the spinal cord at the point whence the nerve arises from the cells of the anterior cornu.

CUTANEOUS AND VENEREAL MEMORANDA.¹

THIS miniature volume has been prepared, as its authors state, for the benefit of the many students who are unable to procure works upon the subjects of which it treats during their pupilage. The first part is a very brief epitome of Dr. Piffard's large treatise on diseases of the skin, which was published in 1876, and reviewed in the JOURNAL (June 22d of that year). The present volume, although arranged in conformity with the author's peculiar theories, is mainly practical in its bearings, and contains very concise and clear descriptions of the diseases of the skin, and judicious directions for treatment. As lately said concerning a similar English work by Tilbury Fox, the legitimate province of such books is very limited, and we should advise every student who desires to become acquainted with Dr. Piffard's views, or to keep in remembrance his teachings, to spend a little more money and buy his larger treatise.

The latter part of the volume, by Dr. Fox, forms an excellent little manual of venereal diseases. His descriptions of these affections are remarkably good; his opinions concerning their nature are in unison with those of the soundest syphilographers, and his directions for treatment are ample and wise. It will make a valuable guide in the treatment of these diseases, even for the practitioner.

THE HARVARD MEDICAL SCHOOL.

THE appearance of this year's catalogue of the school has been looked forward to with much interest, as all were anxious to see the result of the preliminary examinations which were held for the first time. It is particularly important, moreover, in judging of the success of the graded course to observe how many drop out on the way and how many apply for advanced standing.

¹ *Cutaneous and Venereal Memoranda.* By HENRY G. PIFFARD, A. M., M. D., Professor of Dermatology, University of the City of New York, and GEORGE HENRY FOX, A. M., M. D., Surgeon to the New York Dispensary. New York: William Wood & Co. 1877. Pp. 301.

It is gratifying to find that each year there is a larger percentage of former students. We give below some figures obtained by comparing the present catalogue with the preceding one, which we think may be of interest —

SUMMARY FOR THE YEAR 1877-78.	
Graduates' course	7
Third-Year Students	48
Second-Year Students	67
First-Year Students	90
<hr/>	
Total	212
FOR THE YEAR 1875-76.	
Graduates' Course	9
Third Class	56
Second Class	51
First Class	114
<hr/>	
Total	230

This shows a total diminution of eighteen. Subtracting those in the graduates' course there are two hundred and five present members, of whom at least one hundred and twenty-two were in the school last year. Of the forty-eight third-year students, forty-four are old ones, as are all but two of the sixty-seven second-year men. Of the ninety in the lowest class are thirteen who last year failed to pass the examinations for promotion. Of last year's first class seventy-seven remain in the school. This is certainly a good showing, and to many friends and enemies it will be a surprise. Many of the former had prophesied that the preliminary examination would affect the school seriously, and some of the latter have been circulating most mournful accounts of the falling off.

MEDICAL NOTES.

— *The Medical Record* mentions the fact of an epidemic of lead poisoning which occurred in Paris not long ago. It also states that by an investigation that was remarkable for the analytical and detective skill which it manifested, Dr. Decamps ascertained that the poison was conveyed in bread baked in ovens which had been heated by old painted wood taken from demolished buildings. As a result of his investigations the municipal council of Paris has issued a decree forbidding the use of such wood in heating ovens.

— We read in the *British Medical Journal* that a fire occurred at the Hôpital St. Antoine, in Paris, on November 15th, but fortunately it was confined to the wooden huts which were annexed to the hospital during the late war for the accommodation of one hundred and fifty patients. It was intended that these huts should disappear to make room for a building of brick and mortar, but from want of funds and other circumstances this could not be accomplished. The wooden huts are completely reduced to ashes, the fire, which commenced about ten o'clock on Thursday night, having continued its destructive work for two days. It originated in the iron pipes destined to convey the heat through the wards from a large stove situated outside the building. These became

overheated, and the excessive heat, radiating in all directions, set the huts in a flame. The fire was providentially detected in time to enable the inmates of the huts to escape. Two female patients, however, fell victims, and were completely charred before any assistance could be rendered them.

— We are glad to learn that a monument has been placed over the remains of Dr. Charles E. Buckingham, at Mount Auburn, by his many friends and former patients. It has the following inscription, written by Dr. Calvin Ellis: "The testimony of grateful patients to rare ability, devotion, and integrity."

— *The Richmond and Louisville Medical Journal* for November contains a case of "death from ether" that is a specimen of a class. Dr. H. V. Passage, of Peru, Indiana, operated for the removal of a large bronchocele. "It was evident," says the doctor, "he was sinking fast, and that left to nature he must die in a few days." After the beginning of the operation the patient showed signs of *suffocation*, after which he became lethargic and died. The tumor was found to have caused absorption of the cartilages and to protrude into the trachea. This the learned gentleman calls a death from ether.

— Our readers will perhaps remember some remarks which we made concerning medical journals under the heading of the *Survival of the Fittest*. We are pleased to find that the *Medical Times and Gazette* handsomely indorses our opinion of the *American Journal of the Medical Sciences*. "We quite agree with the critic that this journal is second to none in the language, and cheerfully accord to it the first place, for nowhere shall we find more able and more impartial criticism, and nowhere such a repertory of able original articles." The *Times and Gazette* corrects an error into which we had fallen concerning the *Edinburgh Medical Journal*, and gives some statistics concerning other periodicals that may be of interest. The *Edinburgh Medical Journal* bears its present title only since 1855, being the continuation of the *Monthly Journal of Medical Science*, which appeared in 1841. The *Edinburgh Medical and Surgical Journal* began in 1805 and stopped in 1854. We find that there are but two French medical journals older than ourselves. One is the *Revue médicale*, first a monthly, now a weekly, which dates from 1820, and the other the *Archives générales de Médecine*, which commenced three years later. No German medical periodical has reached our age, but the Italian *Annali Universali di Medicina*, which still survives, is twelve years older, as it appeared in 1816.

— Sir William Stokes, the distinguished Irish physician, is seriously ill. He has had a stroke of paralysis.

A REPLY TO DR. CURTIS.

MESSRS. EDITORS, — Some time ago¹ I had the honor of presenting to your readers an objection, which seems to me unanswerable, against the decimal system of weights and measures. It was stated that the practice of counting by tens has no foundation whatever in the philosophy of numbers, and originated solely in the accident of a man's having ten fingers. It may be fitly

¹ JOURNAL, October 28, 1875, and November 11, 1875.

called finger-reckoning. It was shown by reasoning which every mathematician will indorse how greatly our arithmetic was complicated by this unlucky blunder of enumeration, and how vastly the whole science might be simplified by the adoption of a duodecimal instead of a decimal notation.

I did not think it worth while to carry the argument further at that time, as a medical journal is hardly the place for such discussions, but since Dr. Curtis has characterized this line of argument as "transcendental" you will, perhaps, allow me a word more.

What is true of arithmetic is true of all mathematics. If logarithmic tables could be calculated on a duodecimal instead of a decimal basis, the use of infinite series of numerals would be in a great measure avoided. Logarithms of two or three places would then be far more accurate than those of five and six places now, are to the enormous advantage of every species of trigonometrical calculation. The practical usefulness of such a system in applied mathematics, as in engineering, navigation, and astronomy, for instance, will present itself to every educated mind. These points have been fully recognized by the foremost mathematicians from Leibnitz to Peirce. They seem to me the opposite of "transcendental."

I can conceive that such considerations may be above the level of the common run of surveyors and apothecaries, but they certainly ought not to fail of appreciation from educated professional men.

Respectfully yours,

EDWARD T. WILLIAMS.

2298 WASHINGTON STREET, ROXBURY.

OBITUARY.

J. SMITH ROSS, A. B., M. D., was buried from the house of his venerable father, Samuel Ross, Esq., in Bath, on Sunday, November 25th.

Dr. Ross was a graduate of Dartmouth College, and a medical graduate of the Jefferson Medical School of Philadelphia. He was surgeon of the 11th New Hampshire Volunteers, and served as brigade and division surgeon. He was a member of the order of the Grand Army of the Republic. He successfully practiced medicine and surgery in Bath for a few years in company with the late John French, M. D. He then settled in Great Falls, N. H., where he soon obtained extensive and lucrative practice. During many years he had suffered from an obstinate and painful form of chronic rheumatism. This was aggravated by malarial poisoning contracted during his army service. He continued in active practice until a few days before his death, though constantly suffering the tortures of rheumatic pains and the depression of the malaria. He loved his profession, devoting to it all his energies and talents. He was held in high esteem by thousands of his patrons. He was a polished scholar and eminently a scientific physician, and was always in the front rank of his profession. At his funeral the following-named medical men acted as bearers: Drs. John McNab, of Woodsville, N. H. Watkins, of Newbury, W. S. P. Carbee, of Haverhill, Charles H. and O. H. Boynton, of Lisbon, and William Child, of Bath, N. H. The religious services were conducted by Rev. G. W. Kenney, of the Bath Congregational Church, and the funeral ceremonies by George Morrison, Esq. The late Dudley Ross, H. P. Ross, Mrs. D. K. Jackman, and Mrs. Cyrus Eastman were brothers and sisters of the deceased. W. C.

BATH, N. H., November 26, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 1, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York ^a	1,077,228	409	19.74	27.46
Philadelphia	850,856	253	15.46	22.88
Brooklyn	527,830	177	17.43	24.31
Chicago	420,000	126	15.59	20.41
Boston	363,940	123	17.57	23.39
Providence	103,000	47	23.73	18.34
Worcester	52,977	16	15.71	22.00
Lowell	53,678	9	8.72	22.21
Cambridge	51,572	16	16.13	20.54
Fall River	50,372	30	30.97	22.04
Lawrence	37,626	14	19.35	23.32
Lynn	34,524	16	24.09	21.37
Springfield	32,976	9	14.19	19.69
Salem	26,739	4	7.78	23.57

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Weber will read a paper upon Tumor of the Cerebellum.

THE next meeting of the Middlesex East District Medical Society will be held at the house of Dr. F. Winsor, Winchester, on Wednesday, December 19th, at 7.30, P. M.

Dr. B. J. Jeffries will read a paper on the Ophthalmoscope.

Dr. W. S. Brown will report a case of Typhlitis.

J. RICHMOND BARSS,

Secretar.

OMISSION. Messrs. Editors, — In the report of "the late Dr. Pratt's case," published in last week's issue, by a mistake of mine, the name of Dr. W. M. Mercer, of Pittsfield, was omitted from the list of the physicians who were associated with me in the treatment of the case, and also assisted at the autopsy. By publishing this correction you will confer a great favor upon

Yours very truly,

FRANK K. PADDOCK.

BOOKS AND PAMPHLETS RECEIVED. — Forty-Sixth Annual Report of the Trustees of the Perkins Institution and Massachusetts School for the Blind for the Year ending September 30, 1877.

Annual Report of the Surgeon-General of the United States Army. 1877.

Plan of the Hall of the Young Men's Christian Union.

Modern Surgical Therapeutics. By George H. Napheys, M. D. Philadelphia: D. G. Brinton & Co. 1878. (For sale by A. Williams & Co.)

Massachusetts Institute of Technology. Thirteenth Annual Catalogue. 1877-78. Boston.

The Physician's Hand-Book for 1878. By William Elmer, M. D., and Albert D. Elmer, M. D., New York: W. A. Townsend, Publisher. 1878.

Report of the Board of Health of the City of Nashville. 1877.

Lectures on Clinical Medicine. By Dr. McCall Anderson. London: Macmillan & Co. 1877. (For sale by A. Williams & Co.)

Typical Case of Addison's Disease, with Remarks. By George Ross, A. M., M. D. Montreal. 1877. (From the Transactions of the Canada Medical Association.)

Reports of the Physician and Treasurer of the Sea-Shore Home for the Summer of 1877.

Excision of the Knee-Joint. By George E. Fenwick, M. D., Professor of Surgery, McGill University, Montreal. (From the Transactions of the Canada Medical Association.) Montreal. 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, DECEMBER 20, 1877. — NO. 25.

CASES OF DOUBLE UTERUS AND VAGINA.¹

BY JAMES R. CHADWICK, M. D.

CASE I. *Uterus and Vagina Double Throughout.* — On March 3, 1876, Mrs. B., of Irish parentage, forty years of age, married for twenty-six years, having had no children, but one miscarriage two years before, applied at my Dispensary for the relief of painful coition, dating from the time of marriage. Menstruation had appeared at the age of thirteen years, and had recurred regularly every fifteen days, with some pain and moderate flow. There was a steady backache.

Digital examination traced the dyspareunia to a tense, unruptured hymen, which barely admitted two fingers. Inspection of the genitals, with a view to relieving this condition by incision of the fibrous band, disclosed a second opening to the right of the other one, which allowed the passage of a single finger only. The two vaginal canals were separated throughout by a thick septum. Each vagina had an os at its extremity belonging to a common collum uteri. Owing to want of time and the promise of a second visit on the part of the patient no exploration of the uterine cavity was made, but I have reason to suppose that the double uterus was similar to that in the next case. The patient never returned.

This case is of interest as showing the cause of the fibrous unruptured hymen to which the symptoms were attributable.

CASE II. *Uterus and Vagina Double Throughout.* — Mrs. L. H., twenty-two years of age, one year married, applied at my Dispensary on May 2, 1877. She had had no children or miscarriages; had menstruated regularly from the age of fifteen years, with much flow, lasting four days, but very little pain. Last winter she had had a slight attack of pelvic inflammation, which had confined her to bed for a week. She sought treatment for a yellowish discharge from the vagina and for constipation.

On digital examination a thick vertical septum was found dividing the vagina in its median line; this took its rise from the vaginal wall anteriorly one half inch behind the urinary meatus, and posteriorly one

¹ Read before the Obstetrical Society of Boston.

inch above the fourchette ; it seemed as though the latter insertion had been partially torn off at the first attempt at coitus. The right vagina was more developed than the left, and seemed to have been generally if not always the one entered by the male organ. The hymen on the left side admitted two fingers, but bound them tightly. An os was felt at the top of each vagina, belonging to a common collum uteri. A sound passed into the uterus to the depth of two inches on the right side, and two and a half on the left ; the two sounds then lay side by side, but could not be made to touch each other ; while they were in position the left hand could be made to grasp the common fundus through the abdomen and thus determine positively that the malformation was of that variety known as *uterus septus duplex*. To the right of the uterus was a small ill-defined rounded body, distinct from the fundus, which was probably the remains of an old pelvic effusion.

A vaginal douche and a laxative relieved all the symptoms at the end of a week, since which time the patient has not been seen.

These two cases are illustrations of the simplest forms of duplicity in the female genital organs due to arrest of development during the embryonic period. The apposed walls of the two Müller's ducts, from which the genital tract is formed, fail to fuse, and disappear, but remain as a firm septum.

In the next two cases there was the same persistence of the septum, formed of the apposed walls, together with a failure of one side to establish an external opening.

CASE III. *Double Uterus and Vagina ; Atresia of the Left Side.* — This case was seen in consultation with Dr. J. L. Sullivan, of Malden.¹

CASE IV. *Uterus Duplex Bicornis ; Double Vagina with Atresia of the Right Side.* — Mrs. W., of American parentage, applied at my Dispensary on August 13, 1877. She was twenty-one years of age, had had no children or miscarriages, having been married but three months. Menstruation began six months after her seventeenth birthday, and had since recurred without intermission every three and a half to four weeks ; the flow had generally lasted seven days, but was scant and attended by much pain. A white, offensive discharge from the vagina had persisted for most of the period since the establishment of menstruation ; there had likewise been constant pain in the back, genitals, and right hip. Marriage had produced no change in the symptoms, — a suggestive circumstance.

The patient was emaciated and bore the marks of protracted suffering on her face and in the deranged condition of the nervous system.

A digital examination revealed a rather narrow vagina, a uterus of normal size lying in the hollow of the sacrum, but freely movable. Along the right side of the vagina could just be detected a circum-

¹ See page 706 of the JOURNAL.

scribed elastic resistance extending from the cervix to the right pubic ramus. Through the speculum no encroachment upon the vaginal canal was perceptible, but a minute opening in the vaginal wall was disclosed half an inch anterior to the os uteri in the median line; through this aperture pressure on the elastic body caused a most foetid pus to exude.

The whitish discharge was thus tracked to a cavity lying alongside the vagina, the peculiarities of which led me to suspect an occluded second vagina. I accordingly sent her to the City Hospital for operation, with a guarded expression of opinion to that effect.

A few days later Dr. O. W. Doe, to whose ward she was assigned, inserted a much-curved wire probe through the opening, and cut down upon its point through the vaginal wall just behind the right pubic ramus. Less than an ounce of pus was evacuated, and the incision was carried back nearly to the collum uteri. The cavity could be traced along the collum for half an inch, but no further passage was then detected. Despite the failure to obtain corroboration of the diagnosis my conviction of its accuracy was not shaken.

A week later, in wiping out the cavity with cotton, I brought out a string of mucus which was attached to the uppermost extremity of the cavity. This, I argued, would have been free had it not come from a still undiscovered second cervical canal. A few days subsequently Dr. Doe was able to pass a sound two and a half inches into a uterine canal from the suppurating cavity. The only treatment had been disinfectant vaginal injections.

A month later the patient presented herself at my Dispensary, when I fully confirmed the existence of a second uterine cavity. The sound entered on the left side of the uterus directly upwards, while at the same time a sound in the right side passed directly to the right. Between the points of the two the left hand could depress the abdominal wall, thereby demonstrating that the cavities were contained in two separate horns of the uterus.

Suppuration had ceased, and the patient was rapidly regaining health, strength, and freedom from pain, which she had not had since girlhood.

The two last cases are chiefly of interest in the way of diagnosis. In each instance this was based, in my mind, upon the coincidence of the commencement of the symptoms with the establishment of the menstrual function; the long duration and the extremely offensive character of the discharge (in Dr. Sullivan's patient the odor was so bad as to prevent attendance at school, and any association with other girls); the absence of induration and fixation of the surrounding tissues, such as certainly would have been apparent had the suppuration been a result of peritonitic or cellulitic inflammation; and finally the fact that there is usually no natural cavity in this position — except the bladder,

which was proved healthy — that could become the seat of a suppurative inflammation.

The indications were unequivocal. The danger of septicæmia, which proves fatal after so many operations for the evacuation of retained menstrual blood, may have been lessened by the years of suppuration, but was probably averted, in great measure, by the thorough cleansing of the cavity with a disinfectant fluid immediately after the operation and for several weeks subsequently.

CASE V. *Vaginal Septum.* — On October 29, 1877, Mrs. F., twenty-six years of age, married for five years, was brought to my dispensary for examination by Dr. W. P. Brechin, who had discovered a year and a half previously a vaginal septum. The patient had menstruated regularly and profusely since the age of eight years and two months, when rape was committed upon her by a man who was convicted for the offense, and is now serving a life sentence in the State's prison. She had had one male child, weighing six pounds, born seven years before. No miscarriages.

On examination a fold of mucous membrane was found to be hanging from the vaginal wall just behind the urinary meatus. This, Dr. Brechin stated, had, when last seen, an attachment to the posterior vaginal wall, thus forming a septum three quarters of an inch in width, dividing in two the vaginal entrance. The vaginal canal above the septum had been single. The patient asserted that the male organ sometimes entered one side and sometimes the other.

That this septum was congenital I cannot affirm, for it is quite possible that it should have resulted from the abnormal healing of the hymen and vaginal entrance, which were very extensively torn at the time of the rape.

It is certainly curious that the septum should not have given way during the birth of the child, and yet been broken down subsequently by coition.

The uterus was single and normal.

CASE OF DOUBLE VAGINA AND UTERUS, WITH CONGENITAL ATRESIA OF ONE OF THE VAGINAL DIVISIONS OR CHANNELS.

BY JOHN L. SULLIVAN, M. D., MALDEN.

NELLIE D., resident of East Cambridge, seventeen years old last January, of Irish parentage, light complexion, good constitution, childhood healthy.

On July 4, 1874, in the fifteenth year of her age, the catamenia appeared for the first time, without pain; color and quantity normal.

She menstruated regularly until November of the same year, when the flow was scanty and attended with moderate pain. These symptoms were attributed to "taking cold." In January, 1875, she missed her period. In February menstruation was reëstablished, this time easy and natural. In March she experienced severe dragging pains, referred chiefly to the back, and voided per vaginam a good deal of fluid blood and several coagula. In April the catamenia were replaced by an offensive purulent discharge. This discharge returned at irregular intervals, and was sometimes tinged with blood. The family physician was now called; opiates were prescribed, a specialist was summoned in consultation, but no exact diagnosis could be established. In August, 1875, the patient suffered an aggravation of all the distressing symptoms; a much larger quantity than usual of foetid pus escaped from the vagina, accompanied by agonizing pains resembling those of abortion. From this time until September, 1876, the discharge was continuous, but during the whole period (thirteen months) there was no admixture of blood. From the latter date until February, 1877, an occasional tinge of blood was noticed; from February to June none.

During this long period of menstrual irregularity and recurring uterine irritation it is worthy of note that there were no symptoms referable to the bladder or urethra, nor any, so far as could be learned, which pointed distinctly to inflammation of any of the pelvic organs or tissues. The general health suffered; the girl grew thin and pale and lost strength, and the appetite became capricious. The bowels were confined rather than loose, owing probably to the opiates to which she was obliged to have recourse. Aside from the pain and purulent discharge there were no other special symptoms noted.

Such were the particulars gathered on my first visit, June 5th. Temperature normal, pulse rather quick and feeble (pulse of irritation). Placing the patient on her back with the abdomen uncovered, I thought I observed an unusual fullness of the hypogastrium. On palpation there was a feeling of tension and resistance throughout that region, but no decided fluctuation. The percussion note was flat. The bladder, explored by the catheter, was found to be of normal size and not particularly sensitive, although displaced considerably to the left of the median line. On examining per vaginam, the patient being in the left lateral position, I detected a large, elastic swelling or tumor, situated in front of the vagina between it and the bladder (which it seemed to have pushed to one side), and extending upwards towards the umbilicus. My attention was next arrested by the discovery of a minute perforation of the anterior vaginal wall, situated in the median line, about an inch behind the meatus urinarius, and apparently communicating with the interior of the tumor. Into this aperture I succeeded in inserting a uterine probe, and passing it thence upwards and forwards until its

further advance was checked by the handle. The instrument could be moved freely in every direction, and had evidently entered a cavity of no small size. On withdrawal it was found smeared with fœtid pus. It now seemed clear that the case was one either of chronic abscess or of double vagina; if the latter, the anterior division or channel must have been congenitally closed with the exception of the minute opening described, or have been occluded subsequent to birth, and was now probably distended with retained menstrual secretions in a state of decomposition. I next sought for the portio vaginalis and fundus vaginæ, but the attempt failed on account of what seemed to be an elongation of the vagina, as if it had been stretched or drawn up beyond the reach of the finger, carrying with it the uterus. Being now satisfied that, whatever might be the nature of the swelling, a free incision and evacuation of its contents were required, I so informed the patient's friends, and in view of the possible dangers of the operation asked and obtained permission to secure Dr. Chadwick's assistance. Three days later, June 8th, the patient being etherized, a second and more thorough examination, digital and with the speculum, was made by both Dr. Chadwick and myself. Thanks to the anæsthetic, it was now possible to reach with the finger the vaginal cul-de-sac, and to distinguish at its summit a small orifice resembling an os uteri, into which a sound penetrated to the depth of half an inch. It was not, however, found possible to bring this orifice into view with the speculum, nor could any collum uteri be made out. The tumor was now incised by Dr. Chadwick, a director having been first thrust through the perforation already described as existing in the anterior vaginal septum; the latter was cautiously divided by a blunt-pointed bistoury carried upwards to within two inches of the supposed mouth of the womb. About a pint and a half of very offensive fluid of a dirty-green color escaped per vaginam. On exploring with the finger the cavity just laid open it proved to be a second vagina, largely dilated, and having an opening at its summit similar to that of its fellow, through which the sound passed into a second cavity nearly as deep as the first, and was thence pushed upwards until its extremity could be felt through the abdominal walls at a point a little to the right of the median line, two inches above the umbilicus. This cavity was believed to be that of the uterus, distended by the gradual accumulation of its own secretions and its abortive efforts to expel them, and so it proved. Very little hæmorrhage followed the incision, the compressed and condensed tissues divided being indisposed to bleed. After thoroughly syringing the parts with carbolized, warm water the patient was left to recover. Her subsequent course was all that could be wished. The after-treatment consisted in cleanliness merely, disinfecting injections being repeated thrice daily. On the 17th of June, no unfavorable symptoms whatever having occurred, she

was again etherized, and the two vaginae thrown completely into one by prolonging the original incision nearly to the os or rather ora uteri, for it was now plain that there were two. There was no hæmorrhage. A week later the patient was sitting up, and soon began to move about.

July 5th the menses appeared without pain, in every respect normal. August 5th, has been weighed, and found to have gained fourteen pounds; looks plump and well. Four weeks ago she was reëxamined by Dr. Chadwick and myself. We found one vagina, not much larger than normal, traversed at its summit by a vertical septum running obliquely from before backwards so as to form a double cul-de-sac with an os uteri debouching on each side, with hardly a trace of a cervix. A sound introduced into the right os, which had on a former occasion proved nearly impervious, penetrated to the depth of about two inches; a second, introduced into the left os, the other instrument being retained *in situ*, penetrated to the depth of two and one half inches. The contact of the sounds with each other was prevented by an intervening septum, dividing both the uterus and cervical canal into two separate, non-communicating cavities or cornua. The failure of the attempt before mentioned to explore with the probe the right uterine chamber, or that opening into the unclosed vaginal division or channel, may be explained by supposing that portion of the organ to have been compressed and its cavity temporarily obliterated by the distended left or opposite segment. From the suppression for successive months at a time of any sanguineous vaginal discharge, alternating with the transient appearance of blood mingled with the puriform secretion, amenorrhœa of the compressed cornu, or chamber, may be inferred, with partial reëstablishment of its functions at irregular intervals.

The above affords a good example of the first or simplest variety of so-called double uterus and vagina, uterus bicornis or bilocularis, in which the fissure is perfect, that is in which the septum descends to the external orifice, divides the latter, extends to the vagina, reaches as far as the pudenda, in the virginal state dividing the hymen, and forms a separate vagina for each half of the uterus. (Rokitansky.) The present case is interesting, first, from its being a rare form of congenital malformation; second, from the almost complete occlusion of one of the vaginal divisions and the train of unpleasant symptoms to which soon after the establishment of menstruation this condition gave rise. The interest is heightened by the difficulty experienced in forming an exact diagnosis during the early stage, before the development of any appreciable swelling or tumor that could direct attention to the real nature of the case. Later, when I saw the patient, the question of diagnosis had narrowed itself to the differentiation of double vagina from chronic abscess, the chief points of distinction being, first, absence of general symptoms denoting serious inflammatory action and of the facial expres-

sion characteristic of long-continued, copious suppuration ; second, failure to discover local thickening or induration of the tissues, — anything, in short, like the walls of an abscess or pus-secreting cavity.

RECENT PROGRESS IN GENITO-URINARY SURGERY.¹

BY T. B. CURTIS, M. D.

Spasmodic Stricture. — It has long been recognized that the urethra is surrounded by muscular fibres, both striped (compressor urethræ) and unstriped (layer of circular fibres), and that these muscular fibres, especially the first mentioned, by their contraction occasionally oppose the exit of urine and the entrance of instruments. Hence the name of spasmodic strictures applied to such contractions. With regard to their causes, Sir H. Thompson says that “a permanent stricture being present, however slight may be its extent, the canal is liable to be narrowed or even occluded at any time.” According to a number of authorities (Sir H. Thompson, Dittel, Bumstead, Van Buren and Keyes, and others) these spasmodic strictures are to be distinguished from “organic or permanent strictures” by their short duration. “The grand distinguishing feature,” says Sir H. Thompson, “which marks the phenomena we have thus ascribed to irregular muscular contraction, and by which they are contrasted with those of organic stricture, is their transitory character.”

Dr. Otis,² however, distinctly takes issue with the authorities cited above with regard to the transitory character of the obstruction liable to be caused by urethral spasm. He believes that a spasmodic contraction possessing all the recognized characteristics of a deep organic stricture, including the persistency of the latter, can be kept up by reflex irritation of the urethra, originating in contraction of the meatus, or in slight (that is wide) organic stricture of the anterior portions of the urethra. In corroboration of this view he adduces six remarkable cases in which the following phenomena, among others, were observed: “(1.) A gradual diminution of the stream of urine. (2.) Persistent frequency of micturition. (3.) Persistent resistance to the introduction of large instruments in the hands of skilled surgeons. (4.) Distinct grasping of small instruments, and a gradual toleration of instruments of increasing size, in this so perfectly simulating the behavior of true organic stricture that the most skilled and learned surgeons have been deceived by these conditions. (5.) The persistence during a long period of years of all symptoms which are recognized by authorities as characteristic of organic stricture.”

¹ Concluded from page 623.

² On Spasmodic Urethral Stricture. *Archives of Dermatology*, vol. i., No. 3.

In one of these cases the patient, a surgeon of New York city, aged sixty-two, had been under treatment for deep organic stricture for nearly twenty years. He had at times been able to pass only filiform bougies; false passages had resulted from attempts to pass the obstruction; chills and fever had been frequent; micturition was performed with difficulty as often as every half hour by day, and five or six times by night. Notwithstanding all these symptoms of organic stricture, from which the patient expected no relief save by a severe cutting operation, Dr. Otis, at his first examination, to the amazement of the patient, introduced with ease into the bladder a 28 F. conical steel sound, this calibre being that of the contraction, which was half an inch in length, commencing at the meatus. The normal calibre in this case, according to Dr. Otis's scale of proportion, was 34 F. The stricture was operated upon in the presence of Prof. Willard Parker, Dr. Gurdon Buck, Dr. Stimson, and Dr. Willard Parker, Jr. The anterior contraction was divided so as to admit a 34 F. bulbous sound, after which, without further cutting, a 30 F. steel sound was easily passed into the bladder. After the operation the patient, who had been urinating every half hour, held his water ten hours, and then passed it with a full, steady stream. A month later he was holding his water eight hours or more.

A seventh case, of a similar character to the others, was more recently published by Dr. Otis.¹ In this case a spasmodic stricture simulated organic stricture during a period of seventeen years. The spasm was dependent upon several wide anterior contractions, the narrowest of which measured 24 F. Relief had been attempted in vain by various surgeons, resulting several times in much hæmorrhage, but in no instance was the surgeon able to pass an instrument into the bladder. A complete cure followed the division of the strictures. At the conclusion of the report of this interesting case Dr. Otis says: "The foregoing case exemplifies in a striking manner the influence of anterior contraction in producing and perpetuating spasmodic stricture of a character identical in every respect with true organic stricture of the deep urethra, and which, as shown in the above case, resists every form of treatment which does not include complete restoration of the anterior portion of the canal to its normal dimensions."

The following statements embody important conclusions drawn by Dr. Otis from his experience: "It may," he says, "be safely claimed that no reliable examination of the deeper urethra can ever be made while a stricture, or even an erosion, is present in the anterior portion of the canal. Inferentially, then, no treatment of deep stricture, *per se*, should be attempted until the complete freedom from organic contraction of the anterior portions of the urethra is established."

Dr. Otis's views in relation to urethral spasm are corroborated by Dr.

¹ Archives of Clinical Surgery, December, 1876.

J. W. White,¹ who published recently an instructive paper on the diagnosis of urethral stricture by bulbous bougies. Dr. White's contribution has for its object to demonstrate, among other points, the possible occurrence of a spasmodic constriction almost undistinguishable from an organic stricture, and the occasional dependence of such spasms upon coarctations of large calibre situated in the anterior portion of the canal.

The authorities were not quite so clearly agreed as to the invariably transient character of urethral spasm as was stated by Dr. Otis. In a clinical lecture, published in 1867,² upon Spasm and Contracture of the Muscular Portion of the Urethra, the late Professor Dolbeau, of Paris, called attention to a spasmodic affection of the urethra simulating organic stricture. This affection was described as beginning insidiously and progressing irregularly; chronic, and in the highest degree refractory to treatment; producing a condition of hypochondriasis, and, finally, of marasmus, and generally terminating fatally. In the two cases reported by Dolbeau, there was, says the author, no organic or inflammatory stricture, but only an idiopathic spasmodic contraction of the urethra. Dolbeau alludes to the urethral spasm which, he says, is known to attend and result from organic stricture, even when of wide calibre, and which is liable to be exasperated by instrumental interference. This "symptomatic spasm" he distinguishes from the "idiopathic spasm," exemplified in his cases. With the new light cast by Dr. Otis's valuable researches upon the normal calibre of the urethra and upon the phenomena resulting from wide anterior strictures, the reported immunity from organic stricture of Dolbeau's patients may now be doubted, as well also as the alleged incurability of the spasmodic affection observed by him.

Hypertrophy of the Prostate. — No very valuable addition has been made of late to our stock of knowledge concerning this disease. Several authorities on the subject have, however, recently contributed publications setting forth their opinions, practice, and results, the most important contributions being from Sir H. Thompson,³ R. F. Weir,⁴ Von Langenbeck,⁵ Van Buren,⁶ and Socin.⁷ Dr. Weir, especially, in a clinical lecture, presents very clearly the important practical points relating to the recognition and management of prostatic hypertrophy. The subject is one of so much importance to the practitioner that a summary of the latest views is not unlikely to be useful.

With regard, in the first place, to diagnosis: The earliest symptom

¹ Philadelphia Medical Times, May 26, 1877, page 394.

² Clinique chirurgicale, Paris, 1867, page 265.

³ The Lancet, January 6, 1877, page 1.

⁴ American Clinical Lectures. Vol. ii., No. 8. New York. 1876.

⁵ Berliner klinische Wochenschrift, January 22, 1877.

⁶ New York Medical Journal, July, 1874. Genito-Urinary Diseases, by Van Buren and Keyes, New York, 1874.

⁷ Prof. A. Socin. Die Krankheiten der Prostata. Stuttgart. 1875.

is one common to nearly all the diseases of the urinary organs, namely, irritability of the bladder, showing itself in excessive frequency of micturition. In cases of prostatic hypertrophy this vesical irritability, for some unknown reason, is much more troublesome at night than in the day-time. Met with in a patient who has passed the age of fifty, this symptom should at once awaken a suspicion of prostatic enlargement, and lead to a systematic exploration of the urinary organs. For a complete and satisfactory diagnosis it is necessary in every such case not only to determine positively the existence of obstructive prostatic hypertrophy, but also to ascertain the absence of other diseases of the urinary organs, especially vesical calculus and stricture. For this purpose a careful exploration with sound and catheter must at once be made, and cannot be deferred nor dispensed with.

“Our first thought,” says Civiale,¹ “when we suspect an enlargement of the prostate, is to make a rectal examination with the finger. All the authorities recommend this proceeding. It has not, however, the value which we have been led by habit rather than by the results of observation to attach to it.” Dr. Weir rightly attributes but little importance to the rectal exploration, for “hypertrophy may be present,” he says, “without revealing itself *per rectum*.”

The pathognomonic symptom of the disease is the presence of residual urine in the bladder after micturition. This all-important point is distinctly set forth by Dr. Weir. “Hence,” he says, “the test of the introduction of the catheter immediately after urination is of prime importance.”

The habitual presence of residual urine or “back water,” and the absence of other diseases, especially of calculus, having been ascertained, the diagnosis of prostatic hypertrophy may be looked upon as established. It is then desirable to determine the quantity of urine habitually remaining behind after micturition, and the maximum amount tolerated by the bladder. These data, easily ascertainable by observation and measurement, are essential for prognosis and treatment.

“It is always a favorable sign for prognosis,” say Van Buren and Keyes, “as far as the future comfort of the patient is concerned, to find a copious residuum upon the introduction of the catheter.”² On the other hand, the most difficult cases to manage are those in which, with a small quantity of residual urine, not exceeding, perhaps, three or four ounces, the bladder is so irritable as to be intolerant of any considerable additional accumulation. The patient is then in the distressing predicament of being able neither to retain nor completely evacuate his urine, and is under the necessity of continually passing small quantities of urine with painful and laborious straining. If the chronic partial retention remain unrelieved, cystitis, caused by the continual presence

¹ *Maladies des Organes Génito-Urinaires*, Paris, 1858, vol. ii., p. 225.

² *Genito-Urinary Diseases*, New York, 1874, page 188.

of stagnating urine, sooner or later establishes itself in a more or less intense form, causing great additional suffering to the patient.

The treatment of prostatic hypertrophy is still purely palliative. The first object of the medical attendant should be to insure the sufficiently frequent evacuation of the bladder by means of the catheter. All the authorities are agreed upon the fact that the habitual use of the catheter is indispensable. Not only is this true of cases where no urine can be passed in the natural way, or where the amount of residual urine is large; the rule applies also to less marked cases, where stagnation exists only in a very slight degree. "It is your duty," says Dr. Weir, "when your examination is completed, to explain to your patient as clearly as you can the nature of the difficulty that he labors under, in order that he may be fully and thoroughly impressed with the fact that he must use the catheter for the balance of his life. No matter if he has only a tablespoonful of clear residual urine, if the diagnosis is positive, the treatment is so also." Sir Henry Thompson, in a recent lecture¹ on the question when the catheter should be used for habitual retention from hypertrophied prostate, speaks as follows: "I have heard it laid down, indeed, as an axiom, that so long as the urine is clear, no matter what the quantity retained, no instrument ought to be employed. A certain amount of *a priori* reasoning may be urged in behalf of such a rule, but it will not bear the test of large experience." This rule of never withdrawing the urine while it is clear, adds the author whom we are quoting, means nothing more nor less than waiting for the occurrence of cystitis before we use an instrument. Such a course is certainly not to be recommended.

With regard, however, to the most trifling degrees of obstruction to complete evacuation our authorities do not entirely agree. According to Van Buren and Keyes² it is most assuredly advisable to instruct a patient with enlarged prostate in the use of the catheter, even "if he has a very small amount of residuum, or none at all." Sir H. Thompson, on the other hand, says that "in an elderly man the presence of a drachm or two of residual urine suggests that at some future time he may require the catheter, but certainly it would not yet be necessary."³ If, however, as much as two or three ounces are left behind after micturition, Sir H. Thompson recommends that the catheter be used at least once a day.⁴

The habitual use of the catheter by the patient being determined upon, the next point to be settled is the choice of an instrument. The majority of recent authors give their preference to more or less rigid instruments, such as the English gum catheter, or silver catheters of

¹ The Lancet, January 6, 1877, page 1.

² *Loco citato*, page 196.

³ Clinical Lectures, fourth edition, 1876, page 204.

⁴ Diseases of the Prostate, fourth edition, 1873, page 177.

various curves. Dr. Weir, with excellent judgment, recommends the flexible rubber catheter as the most suitable of all. Socin also is of opinion that this instrument should always be tried first, preferably to all others.¹ Another very valuable instrument, second only to the rubber catheter, often, indeed, to be preferred to it, is Mercier's gum catheter with a short elbow near the end. This instrument, known in France as the "old man's catheter," is generally very easy to introduce without pain or injury. Both of these flexible instruments are efficient and safe even in unskilled hands; it is impossible with them to inflict a false passage, and one or the other will often penetrate easily into the bladder in cases where the use of a rigid instrument is fraught with difficulty and danger. Metallic catheters, on the other hand, especially the long silver prostatic catheter, which practitioners unskilled in surgical manipulations too often insist on using, not unfrequently prove murderous weapons.

The habitual use of the catheter having been enjoined upon the patient, and a suitable instrument having been selected and found to answer the requirements, two important points claim attention from the surgeon, requiring his best care, patience, and judgment.

In the first place, tolerance of catheterization must be established. In some cases no difficulty is experienced. The stagnant urine, which was the source of all the annoyance, pain, and danger incurred by the patient, is drawn off at regular intervals, with entire relief. These fortunate cases, as shown by Van Buren,² are those in which there is a large amount of residual urine, together with a condition of vesical atony.

Often, however, the first effect of catheterization is unfavorable. The immediate relief occasioned by the complete evacuation of the bladder is soon followed by soreness and pain throughout the urethra, together with increased vesical irritability and a decided exasperation of the symptoms originally complained of by the patient. This result is mainly due to the production of cystitis in cases hitherto free from that complication, and to the exasperation of previously existing inflammation in cases where chronic retention had already occasioned cystitis. This complication is one that is almost certain to occur at some time in every case of obstructive prostatic disease. Stagnation of urine, if unrelieved, sooner or later occasions it. The use of instruments causes it, or occasionally makes it worse if already existing. The management of the case is then often difficult. The object of treatment is still the complete evacuation of the bladder, with the removal of the stagnating, decomposing, and, consequently, irritating urine, by means of the catheter, together with the use of injections, if necessary. At the same

¹ *Die Krankheiten der Prostata*, Stuttgart, 1875, page 76.

² *Genito-Urinary Diseases*, page 196. *New York Medical Journal*, July, 1874, page 1.

time, tolerance of the frequent passage of instruments is gradually to be established.

When the irritation is very decided, great caution is required in the prosecution of the all-important local treatment. In relation to these cases Dr. Weir gives very sound advice. Intervals of a week or more must be allowed to elapse between the successive introductions of the catheter. After a while the intervals can be decreased until the instrument can be used without irritation once, twice, or thrice daily.

When acute cystitis supervenes, with frequent, burning micturition, torturing vesical tenesmus, cloudy, muddy, or bloody urine, and other symptoms, then, according to Dr. Weir, "the use of the instrument must be stopped until the attack has fully passed over and has either resumed or taken on the chronic form." At the same time the usual medical treatment of acute cystitis, summed up by Van Buren and Keyes under the threefold headings of "attitude, alkali, and anodyne," must be applied.

Finally, to deal with that most refractory class of cases in which great irritability of the bladder exists with but little residual urine, here also, according to Dr. Weir, "perseverance with the catheter is to be encouraged. Comfort may perhaps be obtained by injections of hot water into the bladder, as hot as can be well borne, and with as much pressure, gradually increased, as can be tolerated. . . . But the confession must be made that failure is more frequent than success in this variety of prostatic troubles. . . . Where failure has occurred in overcoming the intolerable cystitis by the various expedients that I have brought to your attention," adds Dr. Weir, "and especially if inherent difficulties to the easy or daily introduction of an instrument are present, naught remains but the procedure put into use some ten years since by Van Buren, and more recently by Thompson, of making a permanent supra-pubic opening into the bladder, and thus allowing the prostatic urethra to fall into disuse."

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. GREENOUGH, M. D., SECRETARY.

OCTOBER 22, 1877. *Fracture of the Spine.* — DR. JACKSON showed a portion of the spine, in which there was a fracture of one of the dorsal vertebræ. The intervertebral substance was torn through, except along the anterior edge, where it is more fibrous and resistant. There the upper edge of the body of the vertebra was broken off, and all around the anterior half; and, in close connection with the vertebra above, it was carried forwards and downwards. The patient lived for more than a year and a half, and yet the spinal canal was so obstructed by the displacement that a probe could scarcely be passed through.

Dr. Jackson showed two specimens, from the cabinet, that illustrated the same form of fracture, and that, he thought, had not been sufficiently noticed by surgical pathologists. When the patient lives long enough for the upper edge to be reunited to the body of the bone it often looks not very unlike a transverse fracture of this last, and is probably sometimes mistaken for it.

At a subsequent meeting Dr. Jackson showed another and a similar specimen. The fracture was of the first lumbar vertebra, and the displacement was such that its upper edge was carried by the last dorsal so far downwards as to rest upon the upper edge of the second lumbar. The great displacement caused a very marked projection at the seat of injury, and the symptoms were such as might be expected, the pain being very severe. The patient was a laborer, twenty-two years of age, and lived six months after the accident, which was caused by a bank of earth falling upon him.

NOVEMBER 12, 1877. *Unilateral Functional Spasm.* — DR. J. J. PUTNAM showed a case of unilateral functional spasm presenting some of the features of the so-called "athetosis," at the same time that it belongs distinctly in the class with the so-called "post-hemiplegic choreas."

The patient was a girl eight years old, and the symptoms had developed gradually after an attack of scarlet fever when she was two years of age.

The preceding paralytic symptoms were so slight that they had been laid by the mother to weakness consequent on the fever, until a neighbor remarked that the child dragged the left foot somewhat in walking, and the time could not be distinctly stated at which the spasmodic symptoms first appeared. There had never been convulsions except at the time of the fever.

The movements as a rule occur only in connection with voluntary efforts on the part of the patient, but then they are slow and of shifting character, throwing the fingers into the positions commonly described as belonging to athetosis, and, when strong, extending the arm forcibly at the elbow and rotating the fore-arm outwards. At times the muscles of the left side of the face are included in the spasm, together with the frontalis on both sides, but most on the left, as well as the muscles of the left side of the trunk and the left leg. During walking the toes of the left foot are moved in a similar manner to the fingers.

The patient has been under treatment by electricity at the Massachusetts General Hospital for several months, and has seemed to gain somewhat, though it is difficult to say for what precise reason.

Puerperal Fever. — DR. WHEELER reported a case of puerperal fever terminating fatally, which was, he thought, in some respects uncommon. He had seen the patient at two different times, having had charge of her for ten days from the sixth day after delivery, and being called in again twenty-four hours before her death, which took place about nine weeks after her confinement. The patient was a German, thirty-two years old, and this was her second confinement. During labor she had been attended by an irregular practitioner. The child was still-born, and on the third or fourth day she had chills. Dr. Wheeler was called in on the sixth day, and found no tenderness of the abdomen, but a very profuse and offensive lochial discharge. On the following

day the temperature was 103° , and the discharge gradually ceased, and for a time it looked as though she would pull through. The chills, however, returned, and occurred daily, sometimes even twice a day, the patient became delirious, and the prognosis was a very unfavorable one. After ten days' attendance Dr. Wheeler retired from the case, as the family desired to place her in the hands of a German physician, who, however, also ceased his attendance before her death. Twenty-four hours before death (which was in the ninth week) Dr. Wheeler was again called in. He found the patient much emaciated, the abdomen enlarged, and having chills daily.

At the autopsy the liver was found to extend to the left hypochondrium, measuring fifteen inches in one diameter by twelve in the other, and of a dark mahogany color. The spleen was also much enlarged, being about three times its normal size. No adhesions, no pus, or evidence of peritonitis were found. The uterus was normal; in short, with the exception of the enlargement of the liver and spleen, nothing abnormal was found. In answer to a question, Dr. Wheeler stated that the intestines were examined, and no enlargement or ulceration of Peyer's patches discovered. He regarded the persistency of the rigors as interesting and unusual, they being so marked that had there been any possibility of exposure to malarial influences he should have considered the case as one of intermittent fever.

DR. JACKSON said that in cases very similar to Dr. Wheeler's he had sometimes found, as the sole lesion, a low degree of inflammation of the mucous surface of the uterus, and apparently verging to gangrene; a dusky redness, a smearing of the surface with an offensive puriform fluid, and a scattering of small, thin, superficial fragments of lymph. Enlargement of the spleen he thought that he had, but not of the liver.

Aneurism of the Aorta. — DR. GEORGE C. SHATTUCK reported the case and showed the specimen. The patient, aged thirty-eight, had been healthy until 1862. At that time he was serving as an officer in the artillery of the United States army, and he was troubled with a pain which he describes as starting from the left lower ribs and extending down along the course of the ureter to the testicle. He could not, however, connect this pain with any especial exertion or exposure. The pain was general, dull in character, but he had occasional paroxysms of acute suffering; he lost both flesh and strength, but was able to attend to his duties up to the time of his discharge, which took place in 1865. For eight months he did no work, and then, the pain being less, drove a stage in New Hampshire for two and one half years, during this time being much exposed to the weather. Then for four years he drove a hack in Boston, and during this period he was never free from pain for more than two or three days at a time. In 1873 he was suddenly attacked with nausea and vomiting and a violent palpitation in the front part of the chest and abdomen, where marked pulsation could be seen and felt. In 1874 a curvature of the spine in the dorsal region was first noticed, and about a year ago a boring pain, extending down his left thigh to his knee, came on. Last spring he took to his bed, and about that time he had a very violent attack of dyspnoea and vomiting, which lasted two hours. Since January, 1877, he has not been able to lie on his left side. He was admitted to the Massachusetts General Hospital September 26th.

He was at that time pale, emaciated, and weak. Pulsations visible over front and back. Complained of severe pain along the course of left ureter and into left testicle. Pain paroxysmal; also severe boring pain in left thigh. Pain not especially increased by motion or sitting up. Lay only on right side or back. He was too weak for thorough examination. Pulse was weak, and scarcely perceptible in femorals. Pulsation to be seen nearly all over lower part of back and abdomen, especially the left side in the back and the right side in front. Pulsation synchronous with that of heart. Heart sound heard wherever pulsation seen.

Dullness from fifth rib in front to three inches below ribs on right side, and in lumbar region on both sides behind. Double murmur heard at apex of heart, which was about normal in situation. Systolic souffle heard just below ensiform cartilage, and also over carotids. Subcrepitant râles in right chest. General sense of resistance in right abdomen, but no distinct tumor felt.

Urine showed cystitis and some interstitial nephritis.

He required large amounts of morphia for pain. He seemed to get weaker and to have more pain at first. Later he got slowly better, the appetite improved, and he had less pain.

At time of death he was quite strong, sat up every day, and ate fairly. Had much less pain, and paroxysms very seldom. The pulsations in abdomen, etc., had by this time become quite imperceptible. He died suddenly. He had just changed his shirt and got back to bed, when suddenly he became very pale and pulseless, and died in five minutes.

DR. FITZ makes the following report of the autopsy:—

Death was the result of hæmorrhage into the abdomen from a rupture of an aneurism of the abdominal aorta; three quarts of liquid and clotted blood were found in the abdominal cavity. The aorta presents a series of aneurisms, the largest, the wall of which is ruptured, being of the size of an infant's head. It arises from the anterior wall of the aorta, beginning just above the diaphragm, and extending as low as the renal arteries. The bodies of the vertebræ are eroded, the spinal dura mater being exposed to a limited extent. On each side of the aneurism is a globular tumor, nearly as large as the former and intimately connected with it. These tumors lie behind the kidneys and psoas muscle, and are filled with laminated and decolorized clots. The cœliac axis and superior mesenteric artery arise from the front of the aneurism and are dilated, but otherwise unaltered. The inner surface of the lateral aneurismal pouches are incrustated with earthy matter, and that of the true aneurism presents numerous calcareous plates.

Valvular Thrombus, with Ulceration of the Endocardium.—DR. SHATTUCK reported the case and showed the heart.

The patient, a mason, seventy years old, had a chancre twenty-five years ago, but was always very healthy. He drank a good deal, and used much tobacco.

Two months ago taken with sharp pain about umbilicus, lasting for some time; this he still had when he entered the hospital. Pain is very severe and sharp. Has been jaundiced since he first had pain. Dejections were clay color; now natural in appearance.

For some time before attack, and for about a week after, passed very little

urine. At first for five days, he says, passed no urine and had no defection. Has not vomited. Complains of pruritus. Pulse weak, rapid, and very irregular. Somewhat jaundiced now. Micturition frequent. Bowels constipated. Urine contains no bile, a trace of albumen, much sediment, and granular casts with renal epithelium and few pus cells.

Patient given cathartics and bowels kept loose. At first slept a good deal. Complains little of pain.

November 1st. Patient noisy most of time for no apparent reason. Complains to day of severe pain in right shoulder, which is swollen and tender; cannot move upper arm. This thought to be rheumatism. Passes forty-eight ounces of urine.

November 6th. Very noisy, getting out of bed. Still pain in shoulder, but little pain in abdomen.

November 8th. Lies in a stupid and sleepy condition. Does not seem able to move himself much. Very weak. Pulse very weak and rapid. Temperature 101.4° to-night. Eats but little. Bowels loose; passes fæces in bed. Laxatives omitted.

November 9th. Temperature 98° in morning, 102° at night. Quiet. Complains of no pain. Cannot feed himself.

November 10th. Answers questions slowly. Quiet. Temperature 100° in morning, 101.8° at night. There is but little urine, but what he does pass he passes in bed. Pulse 130, very irregular.

November 11th. Temperature 101° in morning. Pulse 120, quite regular. Noisy at six A. M.; perfectly quiet the rest of the time. Respiration very quick, labored, and intermittent. Profuse sweat. Quite unconscious. Does not speak. No defection for two days. Urine passed in bed. Complained of pain in chest. Died at nine P. M. Temperature to-night 105.2° .

The following report of the post mortem is by Dr. FITZ:—

The heart is relatively normal in size, its pericardium injected and velvety. About an ounce of opaque, flocculent fluid was removed from the sac. The aortic valves were insufficient in consequence of a perforation of the crescent below the origin of the left coronary artery. From the lower surface of this valve a thrombus as large as a filbert projected into the ventricular cavity. The opposed surface of the wall of the ventricle of a diffuse red color, without lustre, rough. The myocardium opaque and yellow in the immediate vicinity of the red patch.

Perforation of the Intestine in Typhoid Fever.—Dr. LYMAN reported the case and showed the specimen. The patient, a woman, was admitted to the City Hospital September 17th. She was very dull, and beyond the fact that she had been sick two weeks could give no history of her case. On entrance her skin was warm, and there was no tympany and little tenderness of the abdomen. She became delirious, with feeble pulse, gradually ascending from 120 to 138, and on October 1st, when Dr. Lyman took charge of the ward, he found her with a pulse of 134 and temperature 104° . From 18th to 29th of September had had no operation. On October 4th she collapsed suddenly at eleven A. M., and died at 6.30 P. M. The specimen exhibited showed a perforation of the intestine.

Dr. Lyman also reported the following case, in which he said he had expected to find a perforation. The patient, a young man aged seventeen, entered the hospital October 1st, with a history of three weeks previously having had a pain across the chest, which soon disappeared and was replaced by a cough. The expectoration was abundant, thick, and white. Three days before admission he had diarrhœa, with much pain, the movements being almost continuous through the day, but not bloody nor accompanied with tenesmus. Had not had epistaxis nor headache. The tongue was parched and glazed, and there was very marked tenderness in right iliac fossa. Pulse 120, temperature 103.4°. He constantly complained of pain. At the visit on the 5th inst. he was found collapsed, with his knees drawn up, and in much pain. He died before ten A. M. In this case no perforation could be discovered, but there was general peritonitis.

Dr. JACKSON said that the perforation of the intestine which occurs in typhoid fever is sometimes very small. There was a specimen in the museum in which the perforation was a mere pin hole. He had preserved this for the purpose of showing the necessity of a thorough examination of the intestine in cases where the symptoms have pointed to the probability of perforation.

Myeloid Tumor of the Fibula. — Dr. BEACH showed a foot which had been amputated by Dr. Bigelow for this disease.

The patient, a young man of twenty-six years, had two years ago first noticed a swelling just above the external malleolus, which gradually increased to its present size (that of a fist). He had never had much pain, and was able to walk. A week ago Dr. Bigelow, by means of a canula, removed some fragments of tissue from the interior of the tumor, which, after a microscopic examination, Dr. Fitz pronounced to be giant-cell sarcoma. The foot was amputated at about the junction of the lower with the middle third of the leg, and the specimen exhibited. A section through the tumor showed myeloid structure, which had evidently started from the medullary canal of the fibula. This bone was at its lower end distended, absorbed irregularly, and fractured. There had been little or no pain although the peroneal branch of the cutaneous nerve was seen lying over the tumor in such a way that it must have been both stretched and compressed. The fact of the patient's having been able to walk with a fracture of the fibula was also interesting.

Fatty Hernia. — Dr. FIFIELD reported the case of a man who was brought to the City Hospital much injured by being forcibly ejected from a house during a fight. In the struggle he had been pounded, jumped upon, etc. A tumor was noticed near to and above the umbilicus. It had been considered a ventral rupture strangulated, the man being in a partially collapsed state. Dr. Fifield, however, on seeing it, at once recognized a "fatty hernia," and cutting down on the tumor showed that the diagnosis was correct. On trimming the mass with scissors a smart hæmorrhage showed that it contained a small artery in its centre. This was an additional evidence of the diagnosis, as these fatty herniæ advance forwards through a crack or fissure in the tendinous expansion of the abdominal parietes, which crack or fissure originally gave passage to a blood-vessel. Hence a necessity exists for ligaturing *en masse* the base of such herniæ before cutting it off. A post-mortem examina-

tion showed that death had resulted from a fracture of the liver. At the site of the hernia the peritonæum had been pulled along by the fatty mass so as to present a small depression or sac. These herniæ are of the class known as "hernies par éraillement," and in this class occupy the subdivision "hernies graisseuses," either of the linea alba or simply as hernies graisseuses in general. Cruveilhier gives a very excellent description of them in the first volume of his *Anatomie Pathologique Générale*, page 634. M. Bernutz, in his inaugural dissertation, published at Paris in 1848, has also well described them. It was by the chance of finding this thesis in the library of the Medical School in Paris that my attention was first called to these hernias. Cruveilhier describes them as follows: "Their mechanism is very simple: a little lipoma insinuates itself with the vessels which traverse the aponeurotic walls of the abdomen dilates these vascular openings like a wedge, and finishes by escaping outwards. It is impossible to distinguish *a priori* a fatty hernia from an omental, and many fatty hernias have been operated on under the belief that they were omental. They are more often above than below the umbilicus, sometimes at the median line, sometimes at one side." M. Bernutz, as cited by Cruveilhier, has given a very different interpretation of fatty herniæ with issue of the peritonæum. He believes that the peritonæum encountered at the centre of these fatty herniæ is the remnant of an old hernial sac, that the fat is consecutively formed around it, and that it is one of the principal elements of the radical cure of herniæ, and even pretends that the celebrated case of Ambrose Paré was nothing more nor less than one of those adipose masses exterior to the peritonæum, although it was regarded by this illustrious surgeon and by those about him as "formed by the omentum folded (*ramassé*) upon itself and adherent."

Still another form of these herniæ must be alluded to. Although strictly belonging to the class of "hernies par éraillement," they take an easier path by nature of their original situation, and instead of bursting through a crack descend along the inclined plane of the inguinal or femoral canal. Carsten Holthouse is the only English authority I find who refers to them. In France they are known under the name of the "hernie graisseuse de Pelletan;" sometimes also called the fatty tumor of the spermatic cord. Holthouse gives a case of one of these fatty herniæ operated on by Maunder at the London Hospital under the idea that it was a true hernia. Mr. Annandale, of Edinburgh, committed the same mistake. Holthouse gives the differential diagnosis as follows: (1.) They are of slow growth, and come on without obvious cause. (2.) Their growth and increase of bulk are progressive, never larger at one time and smaller at another. (3.) When pinched up between the fingers they have a lobulated and dimpled appearance. (4.) When lifted off the parts below there is no impulse on coughing. (5.) They are never reducible.

THE SEA-SHORE HOME.

SOME years ago a number of benevolent persons, justly horrified at the infant mortality among the poorer classes during summer, bethought themselves of a plan to save at least a few of the victims by removing them to a house near the sea where care, comfort, and pure air would undo the work of disease, filth, and heat. For three summers the home has been in operation, but at different places, and now the directors appeal to the public for funds to enable them to procure a permanent situation. The record of work accomplished is very gratifying. In the first year the physicians of the Dispensary, who sent most of the cases, were requested not to send the children who were already in a critical condition. It was thought that many deaths would injure the reputation and thus impair the usefulness of the institution, and that it was better to strive to ward off threatened dangerous disease than to try to cure it when present. The results, however, were so good that after one season a radical change of policy was made, and physicians were directed to send the very sickest children. The report of Dr. E. T. Williams, the attending physician, shows that last summer one hundred and thirty-two persons were admitted, seventy-nine being children and fifty-three mothers. All the children were, of course, under treatment, and twenty-nine of the mothers. Of the patients only seven died, all of whom were under two years of age, and five of whom were under one. When we remember the nature of the cases taken this must be considered a remarkable result. This charity is one which is not likely to be abused; the Dispensary physician who sends the patient sees the home and surroundings; and, if we are not mistaken, it is almost invariably the physician who urges the removal of the child, not the parents who ask for it. A large sum is not needed, and it is believed that if the institution had a situation of its own it could be conducted both more efficiently and economically. We are sure that all who have seen much of this charity will join us in commending it.

MEDICAL NOTES.

— Dr. B. E. Cotting entertained the staff of the *MEDICAL JOURNAL*, with other friends, at his residence on December 13th. Dr. Richardson furnished the intellectual entertainment by a paper in praise of the managers. The occasion was much enjoyed.

— The late Dr. E. H. Clarke has left his valuable library to the Boston Medical Library Association, which is fast outgrowing its present quarters.

— We see that a bill has been presented to Congress to restore Dr. William A. Hammond to the army, from which he was removed by court martial, placing him on the retired list. We are glad to learn this, and hope that the great wrong which we believe was done Dr. Hammond may be righted. There was, if we remember correctly, evidence that Dr. Hammond had not been sufficiently alive in watching those under him, but there was no question of his personal honesty. His disgrace was due to personal and political enmity.

— The fair in aid of the Carney Hospital is said to have cleared about seven thousand dollars.

MASSACHUSETTS GENERAL HOSPITAL.

CASES ILLUSTRATING THE DIAPHORETIC POWER OF JABORANDI (*PILOCARPUS PINNATIFOLIUS*).

SERVICE OF DR. ABBOT.

CASE I. *Chronic Bright's Disease*. — C. S., laborer, aged fifty. The patient entered the Massachusetts General Hospital, May 16th, with a history of "slow fever" many years since, and intermittent fever in 1862, while serving in the blockading fleet at the mouth of the Mississippi. On the 18th of April he had chills, general pains with headache, and his hands and feet were somewhat swollen, with occasional œdema of genitals. May 1st he had nausea and dyspnœa, and there had been nausea at times since. At the time of entering the hospital there was much ascites and anasarca, with dyspnœa, particularly at night. Oppression after food. Heart normal. Pulse 60, of good strength. Urine scanty. On examination by Professor Wood the urine was reported to be "smoky; acid; specific gravity 1012; sediment considerable, consisting of blood, a few pus cells, renal and pelvic epithelium, fibrinous and granular casts (brown, coarse, and fine), and a few fatty. Urophain normal; indican increased; chlorides and alkaline phosphates normal; sulphates and earthy phosphates diminished; urea diminishing; albumen one and a half per cent."

The patient was put upon a diet of milk only, which was continued for four days, with some increase of the flow of urine and a slight diminution of the œdema of the hands. At this time bread was added to the diet, and diuretics, with powerful cathartics, were administered until the 30th, when a decided diminution of the ascites was observed. At this date Professor Wood's report of the urine was:—

"Urine slightly smoky; acid; specific gravity 1010; considerable sediment, consisting of pus, blood, and mucus, with hyaline, granular, and fatty casts, renal epithelium, much of it fatty, bladder and some pelvic epithelium. Coloring matter, chlorides, sulphates, and alkaline phosphates normal. Urea and earthy phosphates diminished. Albumen one half of one per cent."

June 9th. The patient's face had become more puffy, and the ascites and general anasarca had increased; he had had a fair trial of the usual methods of treating these conditions, and the remedies he was then taking — digitalis, etc. — were discontinued, and two doses of infusion of jaborandi, two fluid ounces each, were directed to be given at seven and eight p. m. These caused profuse sweating, which continued an hour and a half, and was accompanied by a chilly feeling, and was followed by vomiting. The medicine was repeated on the 10th, and the sweating was attended by profuse salivation, but no nausea. The jaborandi was ordered to be continued.

June 11th. Profuse sweating and salivation until midnight. Anasarca rapidly diminishing. The medicine was discontinued until the 14th, when it was again administered with the usual effects. Its use was continued from time to time, and on the 30th the dropsy had entirely disappeared, with complete re-

lief to all the subjective symptoms. On the 8th of July the urine was found to be as previously reported, except that the specific gravity was 1013.

CASE II. *Polyuria*. — May 30th. C. L., aged thirty-seven, laborer. Has been complaining ten weeks of debility, loss of appetite and flesh, having diminished in weight ten pounds. Passes a large quantity of urine and has excessive thirst. Burning at the epigastrium, with acid regurgitation. Bowels moved every second day. There is soreness with tenderness on deep pressure over the kidneys in front, but not behind. The patient ascribes his symptoms to working all day in the rain a few days before they appeared.

Urine very pale, slightly acid; specific gravity 1003. Very little sediment, containing nothing abnormal. No albumen or sugar detected.

The patient was put on a diet of bread and milk, with pudding, and tincture of muriate of iron, ten minims three times a day, was prescribed. Belladonna plaster across renal region.

June 1st. Has passed five quarts of urine.

June 2d. Six quarts. Increase each dose of iron to twenty minims.

June 3d. Patient was put on house diet, and sulphate of cinchonia, three grains, in a pill, before each meal was prescribed; the iron to be continued after meals.

June 4th. Reports that he has no sensible perspiration. No sensitiveness in region of kidneys.

“Urine pale; specific gravity 1010; a very little sediment, consisting of a few pus corpuscles and a little bladder epithelium. Indican normal. Urophain, urea, earthy and alkaline phosphates diminished. A slight trace of albumen.” (Dr. Wood.)

June 5th. Has passed seven pints of urine. Feels generally better.

June 6th. Six pints of urine.

June 7th. Same.

June 8th. Seven pints.

June 9th. Seven pints. Is gaining strength. Substitute compound tincture of gentian, two fluid drachms before each meal, for the cinchonia.

On the 10th two fluid ounces of infusion of jaborandi were ordered, to be given at once and repeated in an hour.

June 11th. Perspired profusely for two hours, and vomited three or four times. Urine reduced to three pints.

June 12th. Urine six pints.

June 13th. Repeat jaborandi.

June 14th. Urine three pints. Perspiration very profuse. Appetite impaired. Omit medicine. Ordered elixir of phosphate of iron, quinine, and strychnia, one fluid drachm before each meal.

June 15th. Has had no sweating. Urine three pints.

June 16th. The same, but feels stronger. Urine four pints.

June 17th and 18th. Four pints of urine each day.

June 19th to 23d. Five pints each day. Jaborandi was again administered on the 23d.

June 24th. No sweating or nausea reported. Urine six pints. Metcalf's fluid extract of jaborandi was substituted for the infusion, in doses of ten drops every hour, until profuse sweating was produced.

June 25th. Has sweated moderately. Took five doses of fluid extract of jaborandi. Urine four pints. Repeat jaborandi.

June 26th. Had three doses of the extract, and sweat profusely for two hours; as much so as from the infusion. Continue jaborandi.

June 27th. Vomited after the third dose, and sweat moderately. Feels weak, and has less appetite.

June 27th to 30th. Passed four pints of urine each day, and on the latter date was gaining strength.

CASE III. *Chronic Bright's Disease*. — Mary J. W., twenty-seven, married, entered the hospital June 16th. Has been complaining six months. Has just weaned her second child, which is two years old. Suffered much from privation and exposure during the last winter. For a year has had much temporal and occipital neuralgia, which has been nearly constant for six months. For six months has had œdema of face and eyelids; for two months anasarca, which reaches the knees; also œdema of the chest walls, and ascites. Inappetence. No appearance of catamenia for two years.

"Urine of normal acidity, 1010. Urea diminished. Albumen one and a half per cent. Considerable sediment, consisting of a few blood corpuscles, bladder and renal epithelium (some of the latter in a state of fatty degeneration), hyaline, and coarse and fine granular casts, some of them with renal epithelium adherent, and a few moderately fatty." (Mr. Hutchinson.)

Ordered ten grains of gallic acid three times a day.

June 18th. Much neuralgia of left temple. Ordered ten drops of tincture of gelsemium every three hours until relieved. Bread and milk diet.

June 19th. Neuralgia much less, but has pain at vertex, with soreness of scalp. Complains of weakness and a sense of fullness at epigastrium. Take gelsemium three times daily.

June 22d. Much less œdema below the knees, but ascites has not diminished. Ordered five minims of fluid extract jaborandi every two hours until free perspiration.

June 23d. No perspiration after three doses of jaborandi. Complains only of soreness of the left temple. Variety diet. Omit gelsemium. Increase dose of jaborandi to ten minims.

June 24th. Free from pain. Has had five doses of jaborandi, and perspired moderately from two to three hours after the fourth dose. No nausea, but thinks the medicine made her feel quite weak. Some diminution of ascites. Continue jaborandi.

The patient's condition continued to improve until the 28th, the ascites rapidly diminishing, and on that date being very slight. She vomited occasionally, and had some headache and oppression at the epigastrium, which seemed to be caused by the jaborandi, and the dose was diminished to five minims with fifteen minims of aromatic spirits of ammonia in half an ounce of water, to be given every hour until sweating was produced or weakness complained of.

June 28th. Perspired profusely three hours after seven doses of jaborandi. Had no nausea, but slight salivation. Appetite poor. The jaborandi was continued during the rest of the month, by which time the dropsy had entirely disappeared. On the 6th of July the general character of the urine was

the same as previously reported, except that the specific gravity had risen to 1022.

CASE IV. *Chronic Bright's Disease ; Hydrothorax.* — J. M. J., aged seventeen, teamster, entered the hospital June 25th, having been complaining nine months of œdema of face, which disappeared at times during the night. This was followed by ascites, and on April 1st by œdema of the feet. For one week he has had pain in the right groin, which shifted to the left breast near the nipple, where it now is. There has been dyspnœa on exertion for seven months, and it is increasing. For several nights past has been unable to lie down on account of dyspnœa. Examination showed extensive effusion of fluid in the left chest, œdema of legs extending half-way to the knees, and moderate ascites. Respirations 40 ; pulse 120. On the 26th infusion of jaborandi, one ounce, was prescribed, to be taken every hour until profuse sweating was produced, half a drachm of aromatic spirits of ammonia to be added to each dose in case of nausea.

June 27th. Feels better. Night somewhat wakeful, but had slept much the previous afternoon. Took four doses of jaborandi, and sweat freely three hours. Œdema still marked. Respirations 30 ; pulse 114.

Urine high colored ; acid ; specific gravity 1014. Urea diminished ; very little sediment, containing no morbid elements. Albumen one fourth to one half per cent.

June 28th. Slept well. Face less puffed. Respirations 28 ; pulse 111. Repeat jaborandi.

June 29th. Sweat profusely three hours and a half after three doses of jaborandi. Has had no dyspnœa, and slept most of the night. Feels "nicely." Tongue moist and nearly clean. Œdema much less. Continue diaphoretic.

June 30th. As well. Respirations 21 ; pulse 96. Slept all night. Perspired freely after two doses. Thoracic effusion continues.

These cases fairly illustrate the remarkable diaphoretic properties of jaborandi (*pilocarpus pinnatifolius*), and show it to be a valuable addition to the jувантиа in cases of dropsy.

In the first case the patient had got but moderate benefit under the ordinary treatment of such cases, but experienced most prompt and complete relief from the jaborandi. In the second the flow of urine was reduced at once in twenty-four hours from seven to three pints, and was completely under its control afterwards. In the third the dropsy was entirely removed by it. In the fourth its action was very prompt and satisfactory, the nocturnal dyspnœa being relieved from the moment it was first taken.

The copious salivation, described as one of the effects of this drug, occurred only occasionally, but in one or two instances was excessive, amounting to several pints, and so far as it went aiding in the diminution of the fluids of the system. Nausea, which was rather a common symptom after taking it, was completely prevented by the addition of a small quantity of aromatic spirits of ammonia to each dose.

THE TREATMENT OF INSANITY.

MESSRS. EDITORS,—It seems to me natural that any one who is familiar with the worst treatment of insanity thirty years ago should look upon the best treatment of that time with different eyes from one who, like myself, has become familiar with insane asylums since both the worst and the best treatment for the worst cases of that day have, happily for the patients in my opinion, become a thing of the past. The stone floors, although with cemented brick walls, the small, grated opening in the wall¹ to admit air and light, the heavy door, the darkness, the resonance of every sound, and the absence of direct communication with the external atmosphere in the places where a certain class of the insane were treated in our best asylums thirty years ago suggested to me the term “cells” for them. The expression “cellar” was used because in going to the “cells” from the main building the passage was under-ground, as is the “cellar” on its sides toward the main building and the driveway; its rear side, however, although having glass windows and being wholly above the level of the ground as it now stands on that side, was several feet removed from the front wall of the “cells,” giving to one inside of them the impression of being in a cellar. It seems to me that from my stand-point I used the correct terms; and I cannot now remember any individual to whom I have ever showed the places who did not call them cells in a cellar. While I was one of the medical officers of the asylum, those were the expressions which I always used in speaking of the places, and I cannot recollect that their correctness was ever called in question. My manuscript, too, was read by three persons who had seen these “cells in the cellar,” of whom one was very familiar with them, and no incorrectness was thought of. The inference that I meant that there was little to choose between these and the much worse cells at Worcester, it seems to me, could not be made by any fairly intelligent reader. Certainly it was not so meant.

I am aware, however, that others call the “cells” strong rooms, as Dr. Bell used to do, and the “cellar” a “lodge” or a basement; and several weeks ago I suggested to the writer of the article on this subject in your last week’s issue the publication of an explanatory note from him to that effect, in the next Report of the State Board of Health. My point is this: By whatever name these places are called, they constituted a chief part of the treatment of the most violent insane in the very best asylums thirty years ago; and now, so far as I have been able to learn, *not one is in use for that purpose in any respectable asylum for the insane, either in the United States or in Western Europe.* I looked upon them as being on a par with the bars torn out² by Dr. Bell, and,

¹ Two feet high and a foot and a half wide.

² During the reconstruction of the north wing, begun in 1848, of which Dr. Bell said: “So far as the great ends of distinct separation and fitting classification were concerned, the buildings as left by him met this end, although *at an immense cost as regards cheerfulness of aspect, light, ventilation, facility of inspection, and readiness of service*” (page 21); and again (page 22): “While there was an adequate amount of cubic space to each inmate,—indeed, an exceedingly liberal one, as measured by other and newer institutions,—it was so distributed into dark and narrow passages, thick partition-walls, and angular lobbies that a *more dark, gloomy, repulsive interior can hardly be imagined.*” This is a year after the time referred to by me in my paper.

like the low diet, purgings, bleedings, etc., of old times, as indicating an entirely different conception of insanity and its treatment from that which I am glad to say prevails now. My use of the word "stone" for stone and brick is an error.

The McLean Asylum was the first in New England but the fifth in the United States, and when it was built the best views of that day had been introduced into this country through Dr. Rush in Philadelphia and Dr. Jones in New York. No one could for a moment suppose that I meant any imputation on the McLean Asylum nor on its first superintendent. I gave them both, and the trustees, the highest praise in my report, but I do not think that either was perfect; and if any one has misinterpreted my meaning, no one can regret the fact more than myself. I will not trouble your readers with an account of the improvements that have been made at the asylum in question, or elsewhere, in the last forty years; for they may be readily seen by consulting the official reports of that institution, especially those of Dr. Lee and Mr. Tyler (1835 and 1836), and of Dr. Bell. The McLean Asylum I have always considered, and still consider, as being in very many essential matters one of the best which I have ever seen. The names of its superintendents alone vouch for its high character; and the great improvements which have been made there, even in the last few years, should entitle the present as well as its past management to the gratitude of every lover of intelligent progress.

It seems to me that the advance to which I referred is a great one, *especially in its moral effect on the patient*; and what my critic (quoting Dr. Bell) calls the "minor advantageous changes in details" seem to me of importance, as they did to Dr. Bell. But I think I may safely refer to the trustees and superintendent of the McLean Asylum at the time the cells were abandoned, as being jealous enough of the interests in their hands not to misrepresent them, at least on the side of too great severity of criticism. In their report for 1863 (some time after such places had been abandoned for the treatment of the insane in all the other asylums of this State) the trustees say that at the time of erection the portion of the asylum of which I have been speaking was "so great an improvement over structures previously in use for the same purpose that it was looked upon as a model in its way; but for a long time its many deficiencies have been but too apparent. *This has been a theme of much discussion and deliberation*; but with the large debt hanging over the corporation the trustees did not feel warranted in adding to it, *even for an object so immediately desirable.*" (Page 12.) Again (1865), the trustees call special attention to the "very interesting and suggestive remarks" of the superintendent upon "the excellent effect of the admirable arrangements" of the new ward for the treatment of the most excited cases. I quote from these remarks as follows: "Many of the most repulsive features of extreme disorder, which are a grief to witness, and how much more to bear and to be subsequently conscious of having borne, *have become entirely unknown here*,¹ evidently by this 'step in the right direction.'" (Page 26.)

Very respectfully yours,

CHARLES F. FOLSOM.

¹ The italics in this article are mine. — C. F. F.

LETTER FROM WASHINGTON.

Messrs. Editors, — The accumulation of events in medical circles here has reached a point at which sufficient material may be found to furnish a letter of, it is hoped, some interest. The profession in the District of Columbia during the past year have had occasion to mourn the loss of two of their most valued members, Drs. William P. Johnston and William Beverly Drinkard. The first, after a life of usefulness and untiring energy, has gone down to the grave full of years, but still a young man in his feelings, sympathies, and energies, — little known, perhaps, outside of Washington, but here one of the most prominent and extensive of practitioners, thoroughly educated at home and abroad, long a professor of obstetrics in one of our colleges, and actively engaged in promoting the interests of our various charitable institutions. Although possessed of ample means, he gave up his active work only when the hand of death was on him, and leaves behind him, besides the record of his medical skill, the memory of a charm of manner that but few attain.

Beverly Drinkard, on the other hand, was a young man, just disclosing the extent of his rare and estimable qualities. His life was so clouded in his earlier experience by "the slings and arrows of outrageous fortune" as to throw a veil over much of it that his most intimate friends forebore to refer to. He spent the years consumed by his country in the war of the rebellion abroad, being a Southerner by birth and sympathy, cut off from his friends and all pecuniary aid, too sensitive to ask for assistance, but pursuing with a steady purpose medical instruction in the schools of Paris. At the close of the war he returned to this country, a young man of twenty-three, who had grown prematurely old, not *blasé*, not soured, but sobered, thoughtful, and earnest, with a refinement of manner that savored of affectation, but was kindly nature itself, as shown in his last words of "*au revoir*." His practice — he was attempting to make a specialty of the diseases of the eye, as far as his limited means would permit of a specialty — was large and rapidly increasing, his ability and skill as a practitioner was acknowledged by all, but the influence of his personal presence, the animal magnetism of the man, was remarkable. After his death it was fully a week before any of the students in the college in which he was professor of anatomy could compose themselves sufficiently to enter with spirit into their studies. The published remarks made in the Medical Society of the District of Columbia on the announcement of his death show a singular freedom from studied effort and stereotyped phrases, and a subdued and poignant regret. The society was wise in publishing the remarks in full, not alone as a fitting token of remembrance, but because the story of his life and death is in itself a study of value to others.

The colleges are at work as usual, with small classes of good material; both faculties seem to be in earnest in fulfilling the letter of the law as to the full term of three years' study under a suitable preceptor, and anxious to establish a high standard of requirements at the final examination, and the recommendation, for it is not yet a rule, for graded examinations seems in some in-

stances to meet with more favor from the students than from their professors. The National Medical College is timidly experimenting with a preliminary examination of candidates for its scholarships before entering upon their medical studies, Mr. W. W. Corcoran having by his generosity enabled this college to offer six endowed scholarships, the candidates for which are referred to the mother institution, the Columbian University, to report on their general fitness. In this college the place of the lamented Dr. Drinkard as professor of anatomy is filled by Dr. Elliott Cones, of the United States army, so well known as a scientist, who will probably find this a permanent station, or at least will be here for some years to come. His position in the army, according to the rules of the service, precludes his being in name a professor, but he fills the chair as a lecturer. He has this year at least, while the memory of Dr. Drinkard is still fresh, to undergo severe criticism and comparison on the part of the class, but his thorough knowledge of his subject, his enthusiastic manner, and his great acquirements in comparative anatomy and its application to evolution lend a charm to the details of his subject which relieves its dryness and impresses important facts in a new way on the student. This college has also had the advantage during the summer session of a course of lectures from Dr. Frank Loring, who signaled in this way his entrance into the specialty of diseases of the eye, so successfully followed by his brother, Dr. Edward Loring, and his lectures were appreciated and highly spoken of by his class as indicative of success in teaching.

At the same time with the opening of the colleges the clinics at the hospitals begin, as a matter of course. Providence Hospital, at present our only general hospital for clinical instruction, is virtually closed to students in the interval between March 1st and October 1st of each year. Students are told, indeed, that they are welcome during this period, but find it in fact to be otherwise. Objections and obstacles are thrown in their way, which show them very soon that they are not wanted and must confine their clinical studies to the field days for show cases, capital operations, etc., which are comparatively of but little importance to them. These obstacles seem to come from the managers of the hospital, who have almost exclusive control, and are probably as much deplored by the medical staff as by the students. The District commissioners have built recently, under the superintendence of Dr. Page, a commodious and excellent hospital for the sick of the department of charities and correction, or what stands as such, with a resident physician and a good salary. The two colleges combined their forces by selecting unofficially certain men from their faculties, and offered for the sake of clinical instruction to give proper attention to the objects of the hospital, and do away with the salaried office. Dr. Page having resigned, a suitable vacancy occurred. The salary was too great a temptation, and a large number of applications for the place were sent in, setting forth each candidate's peculiar fitness, and of course the impropriety of allowing the colleges to be interested in the hospital management was freely discussed. The consequence was the introduction of a stranger to the profession of Washington, imported under the plea that not being engaged in practice here he could devote his whole time to the interests of the institution. Now the disappointed candidates think it a shame that the colleges could not have had what they applied for.

The Columbia Lying-in Hospital is no longer open to clinical instruction, and a very material change has been made in its medical control. The former surgeon-in-chief, Dr. J. H. Thompson, was of acknowledged skill in operative surgery, and of good executive ability; he founded the hospital, as it were, and fostered its growth for years, was a more than agreeable lecturer, having a forcible manner and ready command of language, and yet the opinion of the public and profession in opposition to him became so strong in time as to compel him to offer his resignation, which was immediately accepted, the office of surgeon-in-chief abolished, and Dr. P. J. Murphy, for some years his assistant, was appointed resident physician or surgeon in charge. The fact that so young a man as Dr. Murphy could so readily obtain this position by his abilities as shown while an assistant argues well for the future prosperity of the institution, and encourages the friends of the objects for which the hospital was founded to anticipate for it in this new departure an era of prosperity. With the appointment of Dr. Murphy a new visiting staff was appointed, — the old staff having resigned, with one exception, in a body; they were representative men, standing high in the profession, but were unable under the management at that time to fill their offices with proper usefulness and self-respect. But, as it was, two of the positions were readily and easily filled, the new incumbents being looked upon up to that time as colleagues of similar standing and principles with those who were forced to vacate their offices. They, with the remaining incumbent, constituted the visiting staff for a time, but have now been added to by a very judicious selection. Dr. James T. Young, as one, obtains by this only a just recognition of his years of service in the old dispensary of the hospital, and Dr. Yarrow, of the army, brings a new and valuable element into the staff.

Society work is going on as usual, the meetings being regular, with full attendance. The Medical Association, a body which is supposed to control the ethics of the profession, has had its hands full for some time past in what it calls an investigation, and in which a good deal of feeling has been displayed. The medical departments of the United States navy and army have always been represented here by certain officers controlling the respective bureaus, and officers detailed to attend the sick among such officers and men as might require their services, and both have their special dispensaries upon which to draw for the requisite medical supplies. These officers also engage at will in private practice. The naval medical officers are frequently changed; with the army, its grand organization of hospitals, etc., during the war has since then been year by year lessened, until now no hospitals remain, and but four or five medical officers are detailed for the relief of such of the army sick as require them. During the war, while Washington was one vast camp, medical attendance and supplies were freely given to all who desired them, by army surgeons, with characteristic generosity, thus establishing a system much to the detriment of the civil practitioner in depriving him of a large class of patients that might have been profitable to him, but which was little thought of at the time, as all those in sympathy with their government could enjoy the same privileges by becoming contract surgeons. But now, in view of the complaints of a number of practitioners for several years past, that with the return of

peace this system was still used to the injury of their practice, the association, with distinct charges to this effect before it from one of its members, resolved through its committee to investigate the matter thoroughly, but unfortunately their first efforts in this direction were so ill advised as to create a strong feeling of sympathy for the person against whom they were particularly directed. Dr. J. H. Baxter, medical purveyor United States army, and to prejudice many against the whole proceeding. The member preferring charges was made to stand in the light of a prosecutor, and a circular letter was issued to almost every member of the profession in the District of Columbia asking for any evidence, personal or hearsay, which might be brought to bear upon a possible violation of the code of ethics by the party named, without at the same time making any specified charges. The result might have been anticipated. Dr. Baxter was almost unanimously and honorably acquitted without many of the members knowing what he was charged with, and with a decided expression of indignation against such an objectionable procedure. The report which was thus acted upon had a second clause which reflected in general terms upon the United States medical officers stationed here as violating the code of ethics; this was referred back to the committee for a more specific statement. In consequence a printed circular was issued by them, requiring every member to answer certain questions involving a knowledge of professional services rendered by medical officers of the army or navy free of charge to persons not so entitled to them by law, or the dispensing of medical supplies by the same under similar circumstances. To these questions the members, whatever may have been their opinions as to their propriety, were of course in honor bound to give satisfactory answers. When the answers were all in and summed up, it was found that but two contained any testimony bearing upon the subject, and neither of these came from the much-aggrieved parties who had been so long agitating the subject; they were comparatively insignificant in their character, and evidently testified to from a simple sense of duty, involving but a single medical officer, an army officer of high standing and recognized as a gentleman of warm sympathies and generous impulses, who was honorably acquitted of any intentional violation of the code of ethics. This gentleman, however, attempted a defense which was received with some surprise, and rendered in consequence the feelings of sympathy with him by no means as unanimous as they would otherwise have been, by first very properly acknowledging the truth of the testimony against him, but explaining his actions upon the plea of charity to persons in indigent circumstances, and claiming for the Army Medical Dispensary the rights and privileges of a charitable institution, when, in truth, a majority of the cases cited could not be classed in any proper sense as objects of charity. It would seem as if a much better plea could have been set up by acknowledging a want of familiarity with the petty details of the medical etiquette of civil practitioners, which to an officer brought up in either service of the United States, from the very nature of his duties, must seem irksome and unnecessary in many particulars. Some such avowal would have carried much force with it. As it is there is a feeling of disappointment, as if perfect satisfaction had not been rendered, and as if much sympathy had been wasted upon those who either had no proper causes

for complaint, or, when given the opportunity, had not the moral courage to bring them forward. Be this as it may, these gentlemen have all passed through a trying ordeal, which, after all that has been said and done, in its result reflects great credit and honor upon them. These details have been given somewhat *in extenso*, because they have formed the topic of conversation for months past in professional circles.

W. L.

November, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 8, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	418	20.18	27.46
Philadelphia	850,856	296	18.09	22.88
Brooklyn	527,830	190	18.72	24.31
Chicago	420,000	105	13.00	20.41
Boston	363,940	105	15.00	23.39
Providence	103,000	44	22.21	18.34
Worcester	52,977	14	13.74	22.00
Lowell	53,678	19	18.41	22.21
Cambridge	51,572	19	19.16	20.54
Fall River	50,372	18	18.58	22.04
Lawrence	37,626	14	19.35	23.32
Lynn	34,524	14	21.08	21.37
Springfield	32,976	2	3.15	19.69
Salem	26,739	8	15.56	23.57

ERRATA. — In Dr. Wyman's article on The Early History of the McLean Asylum (JOURNAL, December 13th, page 680), the paragraph following Dr. Ray's letter should read as follows: "Having corrected the errors of statement as to the rooms for the violent insane, I will now consider the state of knowledge with regard to insanity generally and its treatment at the McLean."

BOOKS AND PAMPHLETS RECEIVED. — Katatonica, a Clinical Form of Insanity. By J. G. Kiernan, M. D. (From the American Journal of Insanity.)

Cause of Death at Wallach School Building. A Report by S. A. H. McKim, M. D. Washington. 1877.

Modern Medical Therapeutics. A Compendium of Recent Formulæ and Specific Therapeutical Directions. By George H. Napheys, A. M., M. D., etc. Fifth Edition. Enlarged and revised. Philadelphia: D. G. Brinton. 1878.

Diseases of the Nervous System. By Julius Althaus, M. D. New York: G. P. Putnam's Sons. 1878.

The Action of Medicines. By Isaac Ott, A. M., M. D. Philadelphia: Lindsay and Blakiston. 1878. (From A. Williams & Co.)

Diseases of the Nasal Cavity and the Vault of the Pharynx. Translated from the German of Dr. Carl Michel, of Cologne-on-the-Rhine. With an Introduction by E. S. Thurley, M. D., and C. C. Yemans, M. D. Detroit. 1877.

The Drunkard's Diseased Appetite. What is it? etc.

The Dogma of Human Responsibility, more especially as it relates to Inebriety. By Rev. J. Willett.

Excision of the Knee-Joint. By George E. Fenwick, M. D. (From the Transactions of the Canada Medical Association.) 1877.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCVII. — THURSDAY, DECEMBER 27, 1877. — NO. 26.

TWO CASES OF FRACTURE OF THE SKULL.¹

BY H. E. MARION, M. D.

CASE I. About six o'clock in the afternoon of November 3, 1872, C. B., fourteen years of age, was struck by a pistol ball (No. 32) while sitting idly in a swing. The blow neither stunned nor prostrated her, nor was she conscious that she was much injured till she wiped the blood from her face. She walked to the house, a short distance, without assistance. When I arrived she was blanched and very much excited. She soon became pulseless, her respiration sighing, and her extremities cold and clammy. There was a wound just at the left of the median line, and about an inch and a half or two inches from the eyebrow. It looked very much like a leech bite enlarged; hæmorrhage had ceased. Before the shock was complete I probed the wound; the probe passed readily into the frontal sinus towards the outer angle of the left eye, but nothing that simulated a foreign substance was touched. After probing the sinus carefully I attempted to pass the probe directly back, but could find no opening through the inner table of the skull. The shock was now complete, and as her condition looked very critical, Dr. Braman, since deceased, was summoned in consultation. She had rallied somewhat by the time he arrived. I again probed the wound, as before, and with similar result.

Things looked too serious not to advance with the greatest caution. Dr. D. W. Cheever was sent for. He arrived at 11.45 P. M. In the mean time she had completely rallied, and save vomiting showed no signs of cerebral disturbance.

Without ether Dr. Cheever probed the wound with a Nélaton's probe; as he did not succeed in finding an opening through the inner table he hoped the ball might be lodged somewhere within easy reach, and advised searching for it at once. The patient having been etherized he made an incision about three inches in length, parallel with the brow; another at right angles with this, extending to the hair. On dissecting the integument from the os frontis a circular fracture of the external table was evident, with the included fragment depressed. A trephine was used, and the depressed portion removed; also bits of

¹ Read before the Boston Society for Medical Observation, October 15, 1877.

straw from the hat she had on at the time of the injury. The ball had left its mark on the surface of the depressed bone. As an opening through the internal table was not found, another portion of the external table was removed nearer the median line. After careful sponging the course of the ball was evident. The inner table was fractured and depressed; a small portion of sound bone was removed by the trephine. A piece of bone as large as a gold dollar was depressed, standing at an angle of about 45° to the surface. The pulse being very small and frequent the ether was stopped. Carefully and cautiously the depressed piece of bone was removed; the lacerated dura mater could be seen. An attempt to vomit forced from this opening a clot about half an inch in length. A probe was carried, by its own weight, an inch and a half within the cranium. The patient was turned upon her face, with the hope that the ball by its weight might escape, but it did not. The ball in all probability having entered within the skull, further interference was deemed inadvisable. The wound was carefully cleansed and a wet compress applied. Vomiting freed the stomach from a quantity of apples and chestnuts. Time of operation about an hour. Prognosis unfavorable.

November 4th. Patient slept well after the operation. Pulse and temperature normal; complained of nothing but the taste of the ether. She was ordered to be kept in a room with the blinds closed and the curtains down; sufficient bromide of potassium to keep her quiet; to see no one but the nurse; to have a liquid diet, and cold applications to head.

These directions were carefully and faithfully carried out by an efficient nurse.

On November 9th not an unfavorable symptom had occurred. Slight hernia cerebri.

The case went on to recovery without any symptom or incident worth recording, save a few attacks of slight vertigo if she were standing, especially if she were standing for any one to look at the cicatrix. Pulsations of the brain can now be seen distinctly. The case offers the following points of interest: *First*, in a medico-legal point of view. She was shot by one from whom she was entirely concealed. He was standing on a side hill on a plane several feet higher than the swing in which she was sitting. He was using for a target a tree which stood midway between them, namely, about thirty yards from each. Had he missed the target the ball would of course have gone many feet over her head. The swing in which she sat was suspended from a tree near the foot of the hill, close to a bank-wall.

Ascending the hill and examining the tree used as a target I noticed one place among several others where not only the bark had been removed but the course of the ball was evident by an oblique line on the

wood. This was on the side of the tree, just where a large branch was given off. The line of vision being extended along this line, it fell directly on the forehead of an adult sitting in the swing, looking in the direction of the tree.

Second. It was singular that a blow of such apparent gravity should have neither stunned nor prostrated the patient at once.

Third. Was the exploration justifiable?

The external wound was small, and the probe showed only that the frontal sinus had been opened. She was not prostrated by the blow, and after the shock, which might have been caused by her consciousness that she had been shot, had passed off there were no signs of cerebral lesion. On the other hand, the result of the exploration showed how great a risk there would have been if there had been no interference. Certainly in removing the pieces of bone, the piece of hat, and clots of blood, and demonstrating that the internal table was fractured, nothing was done to incur additional risk to her life; and by the extraction of these may we not justly conclude that sources of great danger were removed?

Fourth. Did the ball pass within the skull or not, and if it did where is it?

It was the opinion of Drs. Cheever, Braman, and myself, *at the time*, that the ball had entered the skull. It was thought possible that the ball striking at an angle of 5° or 10° to the plane of the falx cerebri was by it deflected, and passed on beside it and between the two hemispheres. There certainly was an opening through *both* tables of the skull, that in the inner table being nearer the middle line.

The grass around the swing was literally combed in search of the ball. Not finding it either on the ground or in the patient is no proof that it was not there.

CASE II. G. H. J., twenty-five years of age, was thrown from a carriage July 30, 1877. It is supposed that the horse stepped on his head. This happened about five o'clock in the afternoon. He did not move nor show signs of life for some minutes.

The patient was brought to his brother's house, about two and one half miles distant, at once. On the way he vomited freely, talked some, and is said to have recognized one or more of those whom he met.

I saw him at about 5.45 P. M., less than an hour after the accident. The pulse was about 90. Pupils widely dilated and insensible to light. Introducing my finger into an irregular wound, about an inch long, over the left temporal ridge of the frontal bone, I could readily feel a sharp edge of bone extending in the form of a semicircle. As I was examining the wound he had a severe epileptiform convulsion. Between six and seven o'clock he had four very severe and somewhat protracted convulsions, the pupils gradually contracting except just be-

fore and during a convulsion. Pulse at seven o'clock 100; breathing heavy and labored. Vomited. Moved his hands and feet freely.

About 8.20 Dr. C. B. Porter, whom I had previously sent for, arrived. The patient was immediately put under the influence of ether. Dr. Porter enlarged the original wound, making evident the exact nature of the injury.

An irregular piece of bone, an inch by an inch and a half, involving the left posterior inferior angle of the frontal bone, extending backwards and upwards to the coronal suture and downwards to the greater wing of the sphenoid, was depressed and immovable.

In trephining more than four fifths of the button were taken from the depressed portion, beneath which was a clot of blood as large in circumference as a dime, and much thicker. This was removed. The dura mater, so far as we could see, was not lacerated. With the button nearly the whole of the depressed portion was removed. There being no hæmorrhage the flaps were brought together by interrupted sutures and dressed with wet compresses.

At eleven o'clock the patient was still somewhat under the influence of the ether. Pulse 88.

July 31st, nine A. M. Pulse 88, regular, full, and soft. Pupils responsive to light. Answered direct questions with "yes" and "no." Temperature $98\frac{2}{3}^{\circ}$ F. Passed a restless night; hands and feet cold; yawned frequently; vomited occasionally. When asked where he had pain, put his hand to left frontal region. Considerable hæmorrhage through the night; none at time of visit. Flaps were distended with coagula; upper one discolored and cold.

10.30 A. M. Sent for in great haste, as he was supposed to be dying. Said to have been very pale and to have almost stopped breathing; had rallied before I arrived. Hæmorrhage commenced again. Frequent vomiting. At one P. M. I syringed out the wound, and with the finger dislodged the clots outside the skull. Hæmorrhage not ceasing, I laid open the wound and began removing clots from within the cranium whence the hæmorrhage came. Pulse ran up to 140 or 150. Dr. Giddings was present, and kindly assisted. Satisfied that there was an immense clot inside the skull, and considering the critical condition of the patient, I sent a note to Dr. Porter, stating his condition and asking him to see the patient again.

On his arrival the pulse had improved; still it was small, frequent, and without volume. Vomiting continued. The removal of the clot was resumed by Dr. Porter and accomplished with not a little difficulty. When all was removed and syringed out it was evident that the whole of the left anterior fossa had been occupied by a clot. The orbital plate was entirely uncovered and the brain substance forced back. The oozing was from numerous small points of the dura mater, especially in

the vicinity of the longitudinal sinus. The brain did not resume its normal position, and as the oozing continued bits of sponge with a piece of thread attached were lightly placed on the surface of the dura mater until the fossa was a little more than half filled.

August 1st, six A. M. Had a fair night; almost no hæmorrhage. Pulse 96, of a much better character. Temperature 100°. Took an ounce of beef tea every two hours after midnight, and retained it. Ordered twenty grains of bromide of potassium every four hours.

Nine A. M. Removed sponges; they were saturated with blood, and fresh oozing commenced when the surface was exposed. Brain substance had come forward a very little. Sponges thoroughly cleansed in a solution of carbolic acid, and replaced. Pulse of much better volume than twenty-four hours before.

Six P. M. Has remained quiet through the day, and slept. Pulse good. He started up as if to get off the bed, and directly the sponges became saturated.

August 2d. Had a comfortable night, with almost no bleeding; removed sponges this noon; but little oozing followed. Surface of dura mater left exposed; carbolized spray used occasionally. Passed a quiet afternoon, with no hæmorrhage at all. Brain filled about one half the fossa. Put on a light compress saturated in a weak solution of carbolic acid. From this date the case progressed with but little variation to recovery. The brain gradually occupied its natural position. There was partial ptosis of right eyelid until after the brain had regained its position, and the dura mater was covered with fresh and healthy granulations. For four or five days after the sponges were removed the wound looked unhealthy and was offensive. The hands and the legs below the knees remained cold most of the time. No stool until August 7th, when he had a copious dejection after repeated half-ounce doses of castor-oil. Occasionally he complained of frontal headache. Pupils remained natural after the first twelve hours. No convulsions after the operation.

From the 5th to the 10th he slept most of the time, at one period having some stertor, protruding his tongue very slowly and allowing it to remain out of his mouth for some time. On the 8th, the ninth day after injury, he had an involuntary stool and micturition. On the 25th he went down-stairs, and on the 30th he was taken in a hack to his own house, about half a mile distant.

It is very interesting in the progress of this case to notice the condition of the mind. During the ten or twelve hours immediately following the injury he was absolutely unconscious. First day, he answered direct questions by "yes" and "no." Second day, through force of habit, perhaps, the reflex influence of a distended bladder made him uneasy and attempt to get up. On being restrained he said: "If you don't let me get up I'll piss in the bed." Third day, as I entered the

chamber, he said, "Good morning, doctor." "Doctor who?" I asked. "Dr. Marion;" but in a moment after he did not seem to know me. Fourth day, as Dr. Porter entered, putting out his hand, and in response to the doctor's asking him how he did, he said, "How do you do?" as he would in common parlance, not appreciating the force of the inquiry. "Do you know who it is?" I asked. "Dr. Warren." "Who am I?" "You are Dr. Warren, too." "They are all Warrens, are n't they?" "Yes," he said in a matter-of-fact way. On seeing his mother, he said, "How do you do, Mrs. Hitchcock? Take a chair." Fifth day, he recognized his brother. From this to the beginning of the tenth day (or August 8th) he lay in a semi-stupid condition. On the evening of that day I asked him how he felt. He said, "Betterish." The nurse said, "Das ist gut," upon which he smiled. Eleventh day, the nurse, the patient apparently being asleep, was telling of a man being thrown from a hook-and-ladder carriage the night before, when he suddenly broke in with, "That was a narow escape. I wonder it had not killed him." I said, "You would not care to take that chance." "You are right," he answered. Eighteenth day, he asked the nurse if he had the horse cleaned, as he thought he would go to ride. *Nurse*. "Do you like to ride?" "I'd rather ride than do anything else." *Nurse*. "Well, I guess I'll get a dollar-and-a-half horse down town." "I'd rather go a little better than that," he replied. Nineteenth day, he asked for his father and called for different things to eat; wanted his brother's baby to be brought up. It was noticed that he talked more, and most of the time in a wandering, disjointed way. Twentieth day, talked a good deal, with mild delirium. Twenty-first day, I asked him how he got hurt. "I was driving with Dr. Marion, and I guess we had a smash-up. Think I was driving Dr. Marion's white horse." Sat up in a chair a short time; asked for his watch and chain. Twenty-second day, did not know where he was; when told, he recognized the house of his next-door neighbor. Remembered nothing that was said or done two hours before. Twenty-fifth day, tried constantly to get his clothes and go down-stairs. Twenty-sixth day, being down-stairs, he saluted an intimate friend, who happened to come in, with, "Has that baby come along yet?" referring to his wife's expected confinement. Said he was stopping at Mr. Jordan's. Twenty-seventh day, was counting collars, shirts, and cuffs which had just been brought from the laundry. Counted correctly, though he did it many times over. Told me a long story commencing about his aunt's daughter and granddaughter, but ran off on something else, using vague expressions. Still thought he was at Mr. Jordan's. Thirtieth day, nurse thought him more rational. Thirty-first day, on his way home he recognized the different houses along the way, and knew persons whom he passed in the street. Knew his own room, and began at once to look about as if to see whether everything were correct. Thirty-third day, when I entered the room, he

remarked, "I got home this morning." To my inquiry as to where he had been he quickly responded, "Down to Providence." Then he went on to tell how he got away from Nantucket; from this he gave an account of incidents through which he had passed, all in a disconnected, rambling sort of way. Thirty-fifth day, does not forget as quickly what happens from day to day; talks much less, and does not tell those fabulous stories. Does not yet know how he was hurt. Forty-second day, remembers quite accurately the events of the day; does not forget what happens from day to day. Talks no more in that rambling, meaningless way. Fiftieth day, can give a correct account of all things that transpired on the day he received the injury; remembers everything up to the time of the accident. The wound has now nearly healed.

The treatment consisted in light diet, well-ventilated and darkened room, absolute quiet, sponge baths, ice-water pillow; bromide, ergot, quinine, and castor-oil to meet the indications. The wound was dressed with solutions of carbolic acid.

To recapitulate briefly, comparing the condition of the mind with the condition of the wound at corresponding dates:—

Date. Intervals of five Days.	Character of Wound.	Condition of Mind.
July 30th to August 4th.	Time of injury, portion of bone removed. Anterior fossa filled with clot; removed; packed with sponges for thirty-six hours. Sloughy. Serous, offensive discharge.	Absolute unconsciousness. Convulsions. Answers direct questions with "yes" and "no." For an instant recognizes faces. Some association of ideas, for example, desire to rise to urinate.
[August 4th to August 9th.	Wound offensive. Temperature elevated from two to four degrees. Surface of dura mater covered with exudation of lymph.	Unnatural and protracted sleep. Involuntary dejection and micturition. Says he knows those about, but calls them by wrong names. Speaks only when spoken to. Takes food when offered, but does not call for it.
August 9th to August 14th.	Healthy granulations cover surface of dura mater. Temperature elevated from one to two degrees.	Talks only when spoken to. Takes notice of what is said in his presence, and makes a logical deduction.
August 14th to August 19th.	Wound healing rapidly. Temperature normal.	Expressed desire to ride. Asks for different kinds of food, different members of the family, and takes more notice.
August 19th to August 24th.	Space between dura mater and skull filled.	Slightly delirious. Talks much. Is lost. Sleeps but little. Insists that he is not at his brother's.
August 24th to August 29th.	Healing rapidly. Temperature elevated about a degree, consequent upon going downstairs, change of scene, etc.	Mind active. Busy about something all the time. Talking most of the time while awake. Tells strange, unreasonable stories as if they were positive facts.
August 29th to September 3d.	The same.	The same.
September 3d to September 8th.	Healing slowly; causes no inconvenience.	Does not forget what is told him or what happens through the day.
September 8th to September 13th.	Remains about the same	Talks rationally. Remembers from day to day. Recalls events up to a few days prior to the accident.
September 13th to September 18th.	Small triangular place not covered by integument. Suffers nothing from the wound.	Remembers <i>correctly</i> the events of the day on which he was injured, and all previous to just a moment before he was thrown. The rest is a blank.

In this imperfect history of a very interesting case I desire to emphasize a few points, namely: —

(1.) The convulsions did not recur after trephining.

(2.) There was no hæmorrhage at the time of operation, but severe intracranial hæmorrhage followed some hours after.

(3.) Notwithstanding the immense clot that filled the anterior fossa, consequently compressing to a considerable degree the whole hemisphere, there was neither hemiplegia nor loss of any special function, so far as I observed.

(4.) The unusual surgical procedure of packing inside the skull to arrest hæmorrhage.

FROM THE BRAIN TO THE EAR.

BY E. CHENERY, M. D., BOSTON.

THAT inflammation should not unfrequently extend from the deeper portions of the ear to the membranes of the brain, or even to the brain itself, may be easily accepted both from the anatomical relations of the parts and the observations of practice. But that disease should begin in the brain or its envelopes and pass downward into the bones about the ear and finally into the ear is quite another thing. In an article in the *JOURNAL* for November 1st, by Dr. J. O. Green, of this city, there is reference to such a possibility, and the citation of a case reported by Berndgen supposed to be in point; yet on carefully reading the case there seems to me to be ground for question whether the affection was primarily of the encephalon, since there had been a recent attack of otitis, which, though apparently relieved, may have extended to the cells and to the parts beyond.

In a case which came under my own care many years ago, there seems less chance for doubt, and as it has never been reported I will give an outline of it here.

Mr. J. W. was a resident of the country, of good constitution, twenty-two years of age, and a carpenter. With full consent of his parents he left home, and found employment in the original Pemberton Mills at Lawrence. On one very hot day in July, with a number of others, he was engaged in laying down floor between the brick walls. So intense was the heat that all but him and another man gave out and left their work. Several of them, I learned, were sunstruck, and one subsequently came under my care with headache and inability to bear heat or exercise, as a result of the prostration of that day. He was a long time recovering so as to work again.

Mr. J. W. said he thought he should be obliged to give up also, for his head felt as though it would split, and he could not stoop without an effort to keep from pitching forward. The next day his head ached,

and he did not feel like work. Having lingered about for a few days he came home to see his friends and rest a little. They noticed that he did not seem to be as cheerful as when he went away, and he did not get out his violin, as he was wont to do, and make merriment for the young folks about him. After a week or so he started back on a Bangor steamer, and was so bewildered that he went to several depots before he got the right one for Lawrence. His head ached, he felt weak, dizzy, without ambition, and could not set himself to work, and again returned home. His head grew worse, particularly nights, and he frequently expressed regret for ever going away from home, thought he had done wrong in doing so, and could not be persuaded to the contrary. In September he came into my office in a depressed state of mind, showed me the backs of his hands, which were somewhat mottled, and thought his blood was turning to water. I had never seen him before, but was impressed with his evident mental aberration. The next day he came out with the measles and went under the care of a former family physician, I having gone away for a few days. He recovered from the measles, though not from the trouble in his head. Afterwards he had pain in his right ear, with which he was almost beside himself. It found partial relief in the discharge of purulent matter from the ear, and from this time onward the discharge never ceased. Another physician also saw him, and both of them gave it as their opinion that there was no trouble with the head, — that his pains, mental depression, etc., were wholly in the imagination. His parents, having confidence in the doctors, took the same view, and scolded him for his mourning, and his complaining about his head, and because he showed no ambition to do anything. One day he was in the field with his father, who spoke sharply to him, and told him to take hold and help him, when his eyes glared wildly, and he started for the woods near by.

In this way things went on from bad to worse for several months, when his father, hearing that I thought he seemed to be out of his mind when he came to my office, at length called me to him. He was up and about the house ; his ear was running, his countenance looked badly, and he could not sleep nights because of the pain in his head. His father would sit by him in the night and hold his head. "Sit on it, father ;" "put it in the vise," he often exclaimed.

Notwithstanding all this his parents could not divest themselves of the idea that "it was all imagination." Seeing that he was not likely to stand it long, I prevailed on his father to call in an eminent physician, some miles distant, in order to undeceive his friends as to the nature of his case, and have something done for him, if possible, before they should be left to reproach themselves for their want of sympathy, for he felt very keenly this lack in the hours of his suffering.

He died nine months after the trouble in his head began, and four after the ear began to discharge. Before he died he left a request that I should open his head and show his friends that he "did not die of imagination."

The autopsy which was performed the next day.

On raising the calvaria the membranes over the right ear were found thickened, softened, covered with purulent matter, and detached from the petrous portion of the temporal, which was dark and its cavities filled with pus. The middle lobe of the cerebrum was softened in nearly its whole extent. Just above the petrous portion there was an abscess the size of a very large hen's egg, having a sac quite the sixteenth of an inch thick. Dividing through the bones, the cells were filled with pus down into the mastoid process, and there was no doubt that the matter discharged from the ear came from as high up as the dura mater. It would seem that nature here sought to remedy the mischief first by incapsulating the pus within the membranes, and secondly by allowing that which formed without to seek an external outlet through the canals of the bones and the ear, there being no observed communication between the interior of the sac and the ear. Here, then, is a case of undoubted cerebral disease for months prior to any trouble with the ear. Though there was an attack of measles preceding the discharge from the ear, there seems no evident connection between the measles and the discharge. If, therefore, the disease in the ear did not originate in the head, it must have occurred as a concomitant, destroying the vitality of the bones above the ear, and communicating with the membranes just at the time when the inflammation within had resulted in breaking down a large mass of the brain and encysting it within. The natural and likely conclusion is that the disease was primarily of the encephalon and secondarily of the ear, and that the latter was consequent to the former.

RESULT OF THE BROWN-SÉQUARD TREATMENT IN TWELVE CASES OF EPILEPSY.

BY JAMES B. AYER, M. D.

NINE of the cases tabulated upon page 746 have occurred in the private practice of Dr. James Ayer; two have occurred in my own private practice; the remaining patient has taken upon herself the full responsibility of treatment.

All cases are recorded in which systematic treatment has been followed.

The following prescription (occasionally slightly modified) has been used in each case: —

R̄ Sodii bromidi	
Iodidi bromidi	
Ammonii bromidi	ũũ 3 iij.
Potassii iodidi	
Ammonii iodidi	ũũ 3 iss.
Ammoniā sesquicarb.	3 i.
Tinct. calumbæ	f3 iss.
Aquæ destillat.	ad f3 viij. M.

Full dose : one and a half drachms before each meal, and three drachms at bedtime.

Patients were informed at the outset that regular treatment would continue two years, at the end of which time the dose would be left, in a measure, to their discretion, full treatment, except for averting threatened attacks, being no longer advisable.

Six of the patients took, during more than half the treatment drachm doses of the following mixture after each meal :—

R̄ Strychniæ sulph.	gr. i.
Acidi sulphurici dil.	℥x.
Aquæ destillat.	3 iv. M.

To others strychnia was given in smaller doses and for a shorter period.

In all cases the diet was carefully regulated ; coffee and tea allowed in moderation ; alcohol and tobacco prohibited as far as possible.

Healthy mental occupation and amusements, out-of-door exercise, and regular hours of sleep were insisted on, while everything of an exciting character was forbidden.

Results. — In four cases very satisfactory : reduced to a single attack in forty-six months, thirty-one months, twenty-two months, and sixteen months respectively.

In five cases number and severity of attacks both diminished.

In one case severity diminished, number unchanged.

In two cases no change in number or severity.

In eleven cases there has been *marked* improvement in general health and mental condition.

In one case there has been a *slight* improvement.

Over-exertion and carelessness were frequent causes of attacks occurring in patients under treatment. The attack noted in Case III. was attributed to excitement in connection with a fair. In Cases I. and IV. the attacks were caused by smoking. In Case IX. the death of the patient's mother was the exciting cause.

Other occasional attacks could be traced to exposure to the sun, to indigestible food, or to constipation.

An extra dose of the mixture taken at the appearance of the first premonitory symptom very often succeeded in averting a threatened attack.

Considering the length of treatment and the large doses taken it is

	Case.	Condition before Treatment.	Treatment: 3 viiss. = full dose: sixty-three grains bromides, twenty-one grains iodides.	Result.
I.	Male, sixty years.	When a youth had epileptic attacks, from which he recovered. Attacks began July, 1872, and occurred at intervals of a few days up to April, 1873.	April, 1873, to April, 1875, 3 viiss. daily. April, 1875, to November, 1877, occasional doses.	Improved immediately. Only one attack (January, 1876) since January, 1874. Vertigo at rare intervals. General health and mental condition have improved.
II.	Male, sixty-seven years.	Thirty-six years' standing. For several years had averaged one attack in three weeks.	July, 1875, to November, 1877, 3 iij. daily.	Attacks less severe, but number not diminished. Attends to business.
III.	Female, adult.	Thirteen years' standing. During last five years had one attack every two months.	April, 1875, to April, 1877, 3 v. daily (with occasional omission of a dose). April, 1877, to November, 1877, 3 iij. daily (generally).	Only one attack (June, 1877) since treatment commenced. General health is much improved.
IV.	Male, twenty-two years. Cause, overwork while a clerk.	Had averaged one attack each month for two years. Occasional petit mal.	January, 1876, to November, 1877, 3 v. daily.	One attack since treatment commenced. Health improved. Has removed to the country. Is out-of-doors much of the time.
V.	Female, forty years.	Severe attacks, connected with the catamenia, once each month for five years.	January, 1876, to June, 1876, 3 vi. daily. June, 1876, to September, 1876, omitted treatment. September, 1876, to November, 1877, irregular treatment.	Between January, 1876, and June, 1876, three attacks. Since June, 1876, two attacks. Occasional attacks of petit mal.
VI.	Male, eleven years.	In nine months preceding treatment had six full and four incomplete attacks.	April, 1876, to November, 1877, 3 iiss. daily; extra doses every few days, which generally were successful in warding off attacks.	During nineteen months of treatment has had four full and three incomplete attacks. General health improved.
VII.	Male, thirty-five years.	Commenced May, 1869. From May, 1869, to January, 1871, ten attacks; 1871, twelve attacks; 1872, nine; 1873, thirty-eight; 1874, forty; 1875, thirty-four; January to April, 1876, two. Also, petit mal.	April, 1876, to November, 1877, 3 viiss. daily. Omitted two doses.	April, 1876, to January, 1877, seven attacks. January, 1877, to November, 1877, three attacks. General health improved.
VIII.	Female, seventeen years. Cause, overstudy.	Attacks at intervals of one to three weeks for several months, with petit mal.	May, 1876, to November, 1877, 3 v. daily.	Very few attacks; none during past six months. General health excellent. Spends much time in travel. When at home studies French and music.
IX.	Female, forty years.	Twenty-one years' standing. At first, every six months, then less frequent, but for last few years have occurred every month in connection with the catamenia. Attacks severe.	July, 1876, to November, 1877, 3 viiss. daily. Omitted four days.	One attack only, August, 1877. General health excellent. Is extremely nervous.
X.	Female, eleven years. Cause, scarlatina?	Several years' standing. Attacks at irregular intervals.	September, 1876, to November, 1877, 3 iv. daily.	Severity of attacks diminished. No diminution in frequency. Has a healthier appearance. Is gaining flesh.
XI.	Male, four years. Cause, imperfect cerebral development.	Intelligence deficient. First attack at age of six months. Of late, ten to fifteen attacks each month.	April, 1877, to November, 1877, 3 iss. daily for three months; 3 iiss. daily for two months. Omitted for two months.	No diminution in number or severity of attacks. Slight improvement in mental condition and general health.
XII.	Female, twenty-three years.	Petit mal since 1867. In 1876 had one hundred and ninety-five attacks. Full epileptic attacks since September, 1876. In eight months preceding treatment, six full attacks and one hundred and fifty-two attacks of petit mal.	June, 1877, to November, 1877, 3 v. daily.	No full attack during five months of treatment. Twenty-eight attacks of petit mal. General health improved.

very remarkable that the evil effects of iodides and bromides have shown themselves to so slight an extent.

In Case XI. treatment was temporarily suspended on account of acne; this, perhaps, was not necessary, as in Case IV. the eruption was well marked from the beginning of the treatment, which was continued without interruption. In the remaining cases the eruption has proved insignificant.

In some cases increased drowsiness was caused by treatment. One patient slept during the greater part of ninety-six hours. Treatment was recommenced after that time without producing this result. Another, after two years' treatment, found that the night dose began to produce too profound sleep, followed the next day by headache.

The majority of the patients were troubled with dyspepsia and constipation before commencing treatment. Appropriate remedies were prescribed (in connection with the treatment for epilepsy), and in every case marked improvement followed.

In Case I. it should be mentioned that Fowler's solution was contra-indicated. This remedy, which has been recommended in connection with the bromides to diminish the eruption, was given to him on two occasions, in five and three minim doses, for obstinate eczema of the hand.

Both trials were followed by premonitory symptoms of an attack, and the drug was discontinued.

Our patients have not been disturbed and alarmed by the serious effects of bromism so graphically described by recent authors, but on the contrary there is a tendency (which I have reason to believe is rapidly increasing in the community) to underrate the danger attending this treatment and to assume, after obtaining the prescription, the whole responsibility of treatment without consulting a physician.

If these cases remain three or four years longer under observation they will be of value in deciding whether or no this treatment, together with the best of care, can *cure* epilepsy.

RECENT PROGRESS IN SURGERY.

BY J. COLLINS WARREN, M. D.

Antiseptic Surgery, or the antiseptic system, as Lister prefers to call it, had not gained a foothold in this country previous to his visit, eighteen months ago, to attend the meeting of the International Medical Congress. This assertion is based upon a perusal of the discussion which took place at the meetings of the section on surgery, and the fact that our journals have published but few clinical contributions to the subject. At present, however, it bids fair to come largely into use, and at least Boston and New York¹ have taken the initiation. In

¹ New York Medical Journal, December, 1877.

Germany the literature of this subject is very abundant, the system having been adopted by nearly all its leading surgeons. We select from a huge mass of material the report of Professor Volkmann to the sixth congress of the German Surgical Association as an example. The statistics of three full years' trial of the antiseptic treatment in over one thousand important surgical cases are given. There were one hundred and eighty-three amputations performed upon one hundred and seventy-two patients; of these one hundred and forty-nine with one hundred and fifty-six amputations recovered. Twenty-three patients died, giving a mortality of 13.37 per cent. Out of one hundred and nineteen operations upon the breast, six died; two of these died of erysipelas. There were forty-five cases of hydrocele treated antiseptically by incision.¹ There were no deaths, and in but one instance was there any delay in the healing of the wound. Seventy-five cases of compound fracture were mentioned, with no deaths. Of twenty-four cases of penetrating wounds of joints all recovered. He says in concluding the statistics, which are voluminous, "No case of pyæmia or septicæmia has occurred among any of the cases operated upon, or among the wounded treated by us." In cases treated antiseptically, there was erysipelas in but three or four instances. For a complete summary of the antiseptic system, the report of Dr. A. C. Girard to the Surgeon-General in August, 1877, is the most satisfactory we have seen.

Hydrophobia. — There can be little doubt that the present epidemic is more severe than any which has occurred during the experience of the present generation. Our journals have presented a large number of cases during the past year, and at present the English medical press teems with accounts of cases. The *Lancet*, *Gazette*, and *Veterinary Journal* all freely discuss the subject. No little feeling is shown at the disinclination of the government to adopt preventive measures, if we may judge from the following quotation from the pen of a British subject: "The death or grave illness of a royal prince from typhoid fever rouses the government to permit the establishment of a sanitary organization; but princes do not come in the way of hydrophobia, and nothing is done." Sir William Gull, in a recent number of the *Lancet*, speaking of the nature of the poison and its long period of incubation, suggests the retention of it at the seat of injury may justify not only late excision of the wound, but even removal of the cicatrix after the disease has manifested itself. Dr. Fayrer follows him with a general indorsement of his views, but neither have anything new to suggest in the treatment of the disease.

Extirpation of the Kidney. — The favorable results of ovariectomy have emboldened many surgeons to invade regions and excise organs which

¹ For an account of this operation vide the JOURNAL, June 22, 1876.

have hitherto enjoyed immunity from the knife. Prominent among performances of this class is the removal of the kidney, which has been performed successfully more than once. According to the *Medical Times and Gazette*, Dr. Langenbuch, of Berlin,¹ did this operation in the autumn of 1875. The patient, a female, thirty-two years of age, had suffered for eighteen months with dull pain in the region of the left kidney, and for three months had noticed a swelling which palpation readily detected in front of the left kidney. It was a hard, tolerably smooth, globular body, of about six to eight centimetres in diameter, and somewhat movable. Against the probability of its kidney origin was the fact that nothing abnormal could be found in the urine. An incision was made parallel to and about six centimetres from the spinal column from the angle of the twelfth rib to the crest of the ileum. The tumor was found involved in the superjacent muscles, some of which had to be cut. The growth was isolated, and the cord to which it was attached tied, this proving to be the ureter. The operation was performed antiseptically, and the patient made a rapid recovery, being in the hospital but two months. The mass was cystic and evidently an altered kidney, but its precise structure could not be determined, as the specimen, through carelessness, was lost.

The *Lancet* for June 16th has an account of an operation performed by Mr. Jessop, who removed the left kidney from a child aged two years and three months. The first noteworthy symptoms were hæmaturia and irritation of the bladder, but several soundings for stone gave negative results. The child, however, lost flesh, and became more and more pallid. About two months previously a rapidly increasing tumor was discovered in the left renal region, and as the indications were those of malignant growth Mr. Jessop determined to cut down upon it, and, if possible, to remove it. The incision was similar to that recommended for colotomy, but longer. When the diseased mass was reached the kidney was peeled by means of the fingers, and a whip-cord ligature was passed around the vessels and ureter and firmly tied. The remainder of the growth was afterwards stripped away, and the whip-cord left to drain the wound. The operation was a formidable one, owing to the large size of the diseased organ and the free venous hæmorrhage which followed the separation of the growth from the surrounding structures. When removed the kidney weighed sixteen ounces, and resembled encephaloid in appearance. The child was doing well four days afterwards. There was no peritonitis, the bowels acted freely, and the urine flowed abundantly and was not stained. There was no vomiting, the temperature was but little above normal, and the child partook freely of milk.

Further details of this case are not yet reported. It will be remem-

¹ Berliner klinische Wochenschrift, No. 24, 1877.

bered that Gustav Simon extirpated a kidney for renal fistula opening in the lumbar region, following, if we are not mistaken, an operation of ovariectomy. This case was successful. He next undertook the removal of a kidney filled with renal calculi.¹ The patient had symptoms for twelve years. There was at times severe renal colic, during which the urine, ordinarily muco-purulent and ammoniacal, became clear and healthy. There was extreme emaciation. The incision was made in the lumbar region, and the kidney extracted with difficulty. On opening the organ twenty small calculi were found. The patient died on the thirty-first day, of peritonitis. It is worthy of notice that on arriving at the kidney the calculi could not be felt, but that after extirpation, when the kidney was opened, a large number was found. Dr. Gunn, of Chicago, cut down upon a kidney supposed to contain calculi, but, not feeling them by external palpation, did not remove the organ. Mr. Durham, of Guy's Hospital, had a similar experience.²

*Extirpation of the Larynx*³ may also be included in this class of operations. A full report of the cases performed up to that period may be found in the report of Dr. Knight in the JOURNAL for April 6, 1876. Dr. David Foulis, of London, has lately done successfully the first operation of the kind done in England. The patient was a male, aged twenty years. Cricotomy had previously been performed upon the patient and the growth excised, which proved a papilloma; a fistulous opening remained. A year later, the growth returning, thyrotomy was performed, the tumor excised, and its base cauterized. The tumor resembled in size and appearance a large raspberry. The second microscopical examination showed round-cell sarcoma. Two months later it had returned, and four months from the date of the last operation the larynx was removed. The incision began at the lower edge of the hyoid bone and ran down the median line to about an inch below the cricoid cartilage. The soft parts were peeled back from the cartilages on either side; the upper ring of the trachea was cut through, and the larynx separated from it, a leaden tube being inserted into the trachea through which respiration took place. The larynx was then pulled forward with hooks and dissected out, the superior cornua of the thyroid and the arytenoid cartilages being left behind. The patient made an uninterrupted recovery, and Gussenbauer's wire apparatus was subsequently fitted into the wound. Dr. Langenbeck reports a case of extirpation of the larynx, hyoid bone, posterior third of the tongue, and a portion of the pharynx wall. The patient died five months later.⁴

*Resection of the Œsophagus.*⁵—Professor Czerny performed this opera-

¹ Revue des Sciences médicales de Haysen, vol. iv.

² New York Medical Journal, December, 1870, quoting from the Chicago Medical Journal, September, 1870.

³ The Lancet, October 13, 1877.

⁴ Archiv für klinische Chirurgie, supplement to vol. xxi.

⁵ Central Zeitung, No. 63, 1878.

tion in May last for an annular carcinoma of the œsophagus in a woman fifty-one years of age. A piece six centimetres in length was removed from the entire thickness of the organ, and the lower end of the œsophagus was stitched to the wound in the neck. The patient left the hospital well in a month's time.

Gastroraphy. — Billroth¹ reports a case of gastric fistula involving the abdominal wall, resulting from a chronic abscess over the lower ribs in a woman twenty-five years old. It was first proposed to close the orifice with a granulating flap, but this attempt failed, owing, it was thought, to the digestion of the flap by the gastric juice. The fistula reopened three months later. Cauterization was then tried without success. The next operation consisted in dissecting up the mucous membrane of the stomach and turning it inwards, bringing the raw surfaces together. The cause of failure seemed to arise from extensive adhesion of the stomach to the abdominal wall. Finally, the stomach having been washed out carefully, the mucous coat was dissected away completely from the abdominal wall. It was then drawn out through the hole and sewed together with fine silk sutures, the external orifice being closed by a flap of skin. The operation was performed under antiseptic spray and the usual precautions. No food was given for several days, and then only in small quantities. This operation effectually closed the fistula.

Management of the Urethra after Amputation of the Penis. — Dr. Gouley² describes a case of cancer of the penis for which amputation was performed, with subsequent recurrence of the disease in the stump and crura and atresia of the extremity of the urethra. He proposed to remove the disease together with the remainder of the penis, including the crura. The urethra was to be left long enough to be slit longitudinally and stitched to the edges of the skin, so as to form a kind of vulva with a large urethral orifice. The patient, however, refused to submit to it. In May last a patient came under his care who had undergone amputation of the penis for cancer a year before. There was great narrowing of the cicatricial end of the urethra, and a small fistulous opening in the centre of the perinæum. He made, for this case, an incision three inches in length through the perineal integuments, and laid open the urethra for an inch and a quarter, and applied a number of sutures so as to attach the cut edges of the urethra to those of the skin. The urethral incision extended back to the middle of the bulbous portion. There was but little bleeding. The anterior extremity of the urethra was found strictured for an inch or more. "The opening resulting from the operation resembled a small vulva." In a

¹ Wiener medicinische Wochenschrift, No. 38, 1877. London Medical Record, November 15, 1877.

² Louisville Medical News, September 15, 1877.

second case amputation was performed close to the pubes, and the urethra was managed as in the previous operation. The crura and urethra were previously secured by transfixion with needles. The urethra was then laid open in the perinæum on a grooved staff and its edges sewed to the skin. The perineal wound did well, but the stump, which had been sewed up, suppurated and was never completely healed. Some infiltration of urine followed, and an abscess formed which had to be opened. To prevent this accident happening in future he proposes to detach the end of the urethra from the cavernous bodies, and to stitch its free extremity to the upper commissure of the perineal wound.

This difficulty was obviated by Wedemyer¹ by detaching the urethra from the stump of the penis, and pulling it through a hole in the perinæum, made for the purpose. He thus describes his operation: The diseased part having been amputated, the wound was continued along the raphé of the scrotum to the perinæum, and the testicles separated. The urethra was then dissected out and an incision made in the perinæum, between the posterior angle of the wound on the anus, about four centimetres in front of the latter. The urethra was passed through this aperture and its edges sewed to the margin of the skin. This separated the urethra entirely from the scrotal wound, which is then sewed up. In the case operated upon in this way Wedemyer had no difficulty with the urine, and the patient was able to urinate in the erect posture by lifting up the scrotum, without soiling his clothing. The advantage of having the urethra open upon a flat surface rather than at the angle of the scrotum is obvious.

For the literature of amputation of the penis, readers are referred to this article, which is quite exhaustive.

*Rapid Cure of Popliteal Aneurism by Pressure.*²—This subject was mentioned in the last report. Cases continue to be reported with favorable results. A case was cured in fifty minutes by Mr. Tyrrell in the Mater Misericordiæ Hospital of Dublin. We may mention in this connection that Dr. Alexander Patterson publishes a case of double aneurism cured by digital pressure in twenty-one hours.

Hæmorrhage after the Application of Esmarch's Bandage.—Dr. Küpper, of Elberfeld, points out³ that Esmarch's plan of arresting hæmorrhage during surgical operation is attended with one serious disadvantage. When the large vessels have been tied, and the elastic ligature has been removed there is usually free and prolonged bleeding from many small branches, so that the surgeon is often compelled to tie twice or thrice the number of vessels that he need have tied had

¹ Archiv der Heilkunde, Heft 6, 1877.

² Lancet, June 30, 1877.

³ Deutsche medicinische Wochenschrift, No. 43, 1876.

Esmarch's apparatus not been used. When the antiseptic spray and dressings are used this bleeding is especially disadvantageous. The application of Esmarch's apparatus to a limb is followed, as is well known, after removal of the elastic ligature by intense redness of the skin, and by increase of temperature in parts below the seat of compression. From the analogy of these phenomena to those presented by the external ear of an animal after division of the cervical portion of the sympathetic, the author has been led to the conclusion that the application of Esmarch's apparatus causes paralysis of the arterial muscular tissue, either by direct action on this tissue or by indirect action on its nerves. The author proposes, as a means of preventing hæmorrhage due to paralysis of arterial muscular tissue, the application of a strong induced current, one pole being placed at some distance from the seat of operation, the other on the surface of the wound and in direct contact with the divided vessels and nerves. A case is reported in which this proceeding was practiced with the expected result. The same complaint has been made by numerous surgeons during the present year, and this has also been the reporter's experience. An ordinary bandage will empty the limb sufficiently, and will not produce this reaction. It has been the custom at the Massachusetts General Hospital to use a roller bandage in this way in amputations for many years.

Total Resection of Humerus.—Professor Billroth reports this case. It was done for necrosis and caries in a twelve-year-old boy following abscess on the inside of the elbow joint and resection of that joint. No regeneration of the bone took place. The patient had a useful arm supported by a ball and socket apparatus from the shoulder. He also gives a case of extirpation of the scapula for chondro-sarcoma resulting in a tolerably useful arm.¹

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

NOVEMBER 5, 1877. *Cases of Pleurisy.*—DR. MASON reported five cases of pleurisy, as follows:—

CASE I. *Large Effusion in the Left Side ; Paracentesis ; Recovery.*—An Irish laborer, aged thirty-three, who had been previously healthy, entered the Carney Hospital with extensive effusion. The attack was caused by sleeping at night on the deck of a steam-boat after a debauch. The patient's weight was one hundred and seventy-five pounds and the chest measurement was forty inches. There was considerable abdominal distress from the downward pressure of the fluid, and the symptoms were somewhat urgent. He was tapped two inches below the angle of the scapula, and four quarts of clear, yellowish

¹ Archiv der klinische Chirurgie, vol. iv.

serum were withdrawn by the aspirator. There was evidently much fluid remaining, but the tendency to cough made further removal undesirable. The abdominal distress was immediately relieved, and in one month the patient made a complete recovery.

CASE II. *Effusion in the Left Side ; Paracentesis ; Recovery.* — An Irish laborer, forty-five years of age, presented himself at the Boston Dispensary with cough and pain in the left side, which had come on after exposure. There was no history of previous illness. The breathing was not difficult, and no abnormal sound was heard on examination of the chest. A blister was ordered and rest advised. This patient did not appear again for a month, when it was found that there was a large effusion in the left chest, flatness extending as high as the clavicle in front and above the middle of the scapula behind, with absence of respiratory sounds and vocal fremitus, the heart beating to the right of the sternum. There was no bulging of the intercostal spaces. The breathing was somewhat labored after going up-stairs, but at the time of examination was nearly normal in frequency. The patient complained of sleeplessness and cough. The face was pale, the lips were blue, the hands cold, and the first sound of the heart diminished in intensity. With the assistance of Dr. J. P. Oliver the patient was tapped below the angle of the scapula, and two and a half quarts of clear, yellowish serum were slowly removed by the aspirator, when severe coughing prevented further evacuation. There was good respiration and percussion to the fourth rib in front after tapping, and the patient was out and about in two weeks, although complete absorption of the fluid did not take place for two months. The patient was seen, however, two years later, when there was no sign of his previous trouble.

CASE III. *Effusion in the Left Side ; Paracentesis ; Recovery.* — An Irish laborer, forty years old, came to the Dispensary, having walked a mile or more without much distress. He was a man of very good muscular development and previous good health and habits. After exposure to the weather he had had an attack of pleurisy in the left side two weeks before, and when seen the physical signs were similar to those in the case just reported. With Dr. Oliver's aid the patient was tapped at the usual point with a large, curved trocar, as a better instrument was not at hand, and three and a half quarts of clear, greenish-yellow serum flowed rapidly through the canula, some air gaining entrance to the chest. There was little cough after the operation; the patient slept well, which he had been unable to do before, and there was good respiration as low as the left nipple in front, with disappearance of the bronchial sounds. This patient came to the Dispensary again in ten days, and was last seen about six weeks after the operation, when absorption was nearly complete and the heart had returned to its normal position.

CASE IV. *Effusion in the Right Side ; Death.* — An Irish vagrant, twenty-eight years old, entered the Carney Hospital August 24, 1875. There was no definite history of any previous illness, though the patient had had a cough without expectoration which he had not regarded as of importance. He had had little food and had slept out-of-doors most of the summer. Three weeks before entrance there was sharp pain in the right side followed by shortness of breath. On admission the dyspnœa was great, and there was flat per-

cussion as high as the right clavicle, with absence of respiratory sounds over most of the right chest, the cardiac impulse being an inch and a half to the left of and an inch below the left nipple. The patient was badly nourished, and the pulse was 132 and rather feeble. One quart of clear, yellow serum was withdrawn from the chest by the aspirator, but the fluid did not flow readily, coming in jets only when the patient was made to cough, which he finally refused to do. There was a tendency to syncope, for which he was kept in a recumbent position. After operation there was resonance as low as the third rib in front and respiration of broncho-vesicular quality, with some relief from the dyspnoea. Although there was a large quantity of fluid remaining, the patient always refused to be tapped again, and no further absorption took place, though the chest did not refill. A month later there was tympanitic resonance, with bronchial respiration and subcrepitant râles above the third rib. The position of the heart was nearly normal. The pulse varied between 120 and 140, and the respiration between 30 and 45, for two months, the patient refusing to take nourishment much of the time. Finally, there were bed-sores, and he died from exhaustion. At no time was there a troublesome cough or expectoration of a purulent character. There was slight fever and considerable sweating. Unfortunately there was no autopsy; therefore it cannot be stated that this was not a case of secondary pleurisy, but the absence of the usual signs of advanced pulmonary disease led to the opinion that the vital powers had been reduced by privation much below the average, and that the fatal result was due to the long-continued presence of a large effusion.

The first three cases are instances of the favorable result which may be anticipated in the treatment of simple, idiopathic pleurisy. They presented no unusual features, and the usual mode of treatment was adopted. The affection was seated in the left side, and was probably due to the same cause, — exposure to cold. It has been stated that idiopathic pleurisy is more apt to occur in the left side. Dr. Bowditch's experience shows the reverse, or at least that more favorable results have been obtained by him in tapping the right side than the left. Although the effusion was large in these three cases, the dyspnoea was slight, but it was not thought safe to defer tapping on that account, in view of the danger of sudden death from syncope, which occurs occasionally in left-sided pleurisy when there is much displacement of the heart. Bronchial breathing and bronchophony were noticed throughout the affected side in two cases. This is observed in cases of large effusion, when the condensed lung is a better medium for conducting the bronchial sounds.

CASE V. *Pyo-pneumothorax; Paracentesis; Free Incision; Death.* — An Irish laborer, aged thirty-two, entered the Carney Hospital December 8, 1874. He had thought himself well until three months before, when he was laid up with cough, chills, and fever. On the fifth day of his illness, when getting out of bed, he was suddenly taken with severe pain in the left side of the chest. The shortness of breath at this time was extreme, and the patient could lie only on the left side. At the time he entered the hospital the signs were those of phthisis, with pneumo-hydrothorax. Loud metallic splashing was heard on succussion. The heart sounds were loudest at the ensiform cartilage, where a diastolic murmur was noticed. He was up and about the ward, but two weeks

ater, as there was no improvement, at the patient's request three ounces of pus were removed by the aspirator. No more could be obtained, although the canula was cleared, and there appeared to be no mechanical obstacle to its exit. Some relief was afforded.

Two weeks later the patient was retapped through the eighth intercostal space behind, and three ounces of pus escaped. No more could be removed, but it was evident from the physical signs that a considerable quantity remained. Great relief was expressed after the operation.

Ten days later, as the dyspnœa caused distress, especially at night, eight ounces of pus were withdrawn through the sixth intercostal space, and a week after there was a very large spontaneous discharge at this point. At this time the pulse was 100 and the respiration 32.

At the end of another week, two months after the patient came to the hospital, an incision was made by Dr. Langmaid, Dr. Bowditch and Dr. Hayden (the attending physician) being present in consultation, between the eighth and ninth ribs. The finger was introduced, and at first no pus escaped, but after a few minutes, on coughing, there was a free evacuation of about a pint. A dilator and a rubber tube were inserted. During the operation the patient was several times in danger from the combined effects of the ether and lying on the right side. Once he became cyanotic, respiration nearly ceased, and the pulse was imperceptible at the wrist, but upon stopping the ether, turning him upon his back, and pulling out the tongue, he revived.

The night following the operation, the patient, who had previously had but one or two hours' sleep at night, slept five hours. There was no cough, and but little pain. The pulse was 104, the respiration 30. The discharge through the tube was considerable. Occasional injections of warm water served to correct its offensiveness. The physical signs showed that there was no expansion of the lung. The respiration gradually became more frequent, increasing to 36, with a pulse of 130. Attacks of severe dyspnœa occurred, and the patient died two weeks after the operation, and about five months after the probable supervention of the pneumothorax.

Autopsy. The abdominal cavity, which was opened first, showed no dislocation of any organs, the diaphragm on the left side not being pushed down. The left thoracic walls were not distended, the intercostal spaces being depressed. The heart was dislocated under the sternum and adherent. The valves were healthy. Half an inch above the aortic valves was an atheromatous condition of the internal surface of the aorta.

The left lung was compressed into a small space against the vertebral column at the upper part of the chest, and was bound down by the very much thickened pleura. The costal pleura was also thickened and covered with patches of firm exudation. At the apex the lung was adherent, and there was a cavity with thin walls, the size of a hen's egg. Through the wall of this cavity on the left side, communicating with the pleural sac, was a hole with thickened edges, a probe passing easily from the lung through the thickened pleura. The left pleural sac contained from six to eight ounces of pus.

The upper lobe of the right lung was the seat of tubercle and small cheesy masses, but there were no cavities.

In this case the patient was decided that his comfort had been temporarily promoted by the operations. The difficulty met with in evacuating the fluid in this and in the previous case was the cause of comment, as no source of obstruction could be detected. The canula appeared in both cases to be in the midst of a large effusion which was free in the thoracic cavity, but for some reason which was not evident it would not flow.

DR. CUTLER asked Dr. Mason if the heart returned to its proper position after aspiration, in the cases he had reported.

DR. MASON replied that the return was very gradual, since only a part of the fluid was withdrawn.

DR. KNIGHT reported the case of a boy seventeen years old, who was brought to him ten days before by his father, a physician, solely on account of a little hacking cough of a week's duration. He came into his office after a rapid walk of ten miles. There was no dyspnœa, no elevation of temperature; pulse 118. He had never had any pain in the chest except once; then a little about the left nipple. Physical examination showed considerable effusion in the left chest, in front as high as the nipple, and at the back as far as to the angle of the scapula. One peculiar feature of the case was the fact of the pain being at the nipple instead of in the lower axillary region, as is usual in pleurisy. The boy attributed his condition to a run of four and a half miles in less than thirty minutes, which he took three weeks before the cough began. There were no symptoms referable to the chest in the interval. He was ordered to remain in the house. The ethereal tincture of iodine was applied to the chest, and acetate of potash was given internally; the second day afterwards iodide of potash was added. The pulse was never above 90, and usually about 72 after the first visit. On the day on which the case was reported the line of flatness was considerably lower. The urine had increased one half since the third day. The iodine was very strong, owing to evaporation, and caused great irritation when it was first applied.

Dr. Knight remarked that the application of ammonia has been said to relieve the pain produced by the external use of iodine.

DR. C. P. PUTNAM said that he had made use of ammonia for that purpose without any satisfactory result.

DR. AMORY said that prussic acid added to a solution of iodine will decompose the iodine and hydrocyanic acid into hydriodic acid and volatile cyanogen. This might, in the hands of a cautious person, prevent the further irritation of a local application of tincture of iodine, and unless too much hydrocyanic acid be applied, none of the toxic agent would be left on the cutaneous surface. Hydrocyanic acid will decompose half its volume of alcoholic tincture of iodine.

DR. BOWDITCH reported the following case: A young girl about sixteen years of age, after running very rapidly for some distance, eighteen months ago, was seized with a sharp pain in the right shoulder, and has never been in good health since. Two months afterward she had what was supposed to be pneumonia, dyspnœa being a prominent symptom; since then she has been free from this except on exertion, and even then it is not very severe. At the present time she looks well, and has but very little cough, attended with

slight frothy expectoration. She has been unable to lie upon her left side, as it has caused pain in her right shoulder and some difficulty in breathing. She has had no hectic. Menstruation has been absent for six months. On physical examination her right chest was found to be full of fluid, probably serum; there was uniform distention; the intercostal spaces were filled, but there was no bulging; whisper was heard on both sides, though less, perhaps, on the right; there was absence of respiratory murmur or obscure bronchial respiration throughout the right side; puerile respiration throughout the left. The heart was pushed to the left.

Dr. Bowditch said that so long a period of effusion was unique in his practice. He once had a case of nine months' duration, attended with only slight febrile exacerbations. The patient, a resident of New Orleans, was supposed to be suffering from malaria, and after several months of weakness attended with slight febrile attacks he had come North to recruit. The only symptom leading to a suspicion of thoracic disease was some heavy breathing when asleep. The attending physician, on request of friends, examined and found one side of the chest full of fluid. Dr. Bowditch, on being called, decided to aspirate immediately. This was done with the happiest results, notwithstanding the length of time the fluid had apparently been retained. The lung expanded fully within twenty-four hours, and the patient was well in less than four weeks. He hoped to get as good a result in the case of the young girl.

When *not* to make a permanent opening, in cases of pleuritic effusion, Dr. Bowditch said was a most difficult point to decide. A man with phthisis complicated with pleuritic effusion is often more benefited by repeated aspirations than by a permanent opening; when there is disease of one lung, with pleuritic effusion on the other side, one must take into consideration the whole general condition of the patient before deciding *pro* or *con*. The abdominal distress is almost always relieved by aspiration. In these cases ether must be used with extreme caution.

DR. KNIGHT referred to the first case published by Dr. Blake in his paper on empyema, and said it was apparently one of the most hopeless cases for surgical interference he ever saw, and yet free incision was made and he recovered. He could see no objection to a permanent opening being made even in phthisical patients, excepting the annoyance to the patient, and said that the immediate relief from a free opening in empyema was much greater than from aspiration, no matter how often repeated.

Somnambulism. — DR. FISHER reported the following case of somnambulism in a young man, charged with setting fire recently to the Exeter School-House and Trinity Church. The father of the young man was intemperate and died of phthisis; one brother also died of the same disease. The patient had practiced the habit of masturbation for several years after the age of puberty. He stated that he had been subject to attacks of somnambulism for years, of which his friends remembered six or eight different instances. He usually jumped from his bed, and seemed to represent by his actions some vivid dream. Once he came near killing his wife, thinking her a wild animal. At these times he would wake up if disturbed, or if he ran against anything.

He had never been known to go out of the house. He described also attacks of nightmare and fits of abstraction by day ; said he would sometimes walk for miles without realizing his surroundings, and that he had more than once seen the spirits of dead relatives. His friends said that he became much interested two years ago in books of magic, and thought he could raise evil spirits by magical processes. A few weeks previous to the fires he was thrown out of employment, and his wife left him. He became associated with tramps, and slept many nights in empty freight-cars on the Back Bay.

He stated that he noticed on the morning after the fire in Trinity Church that his clothes, tools, and the car door were not arranged as he left them when he lay down, from which he inferred that he had walked in his sleep. The night of the school-house fire the same thing occurred, and he also dreamed that he was warming himself before a large fire. He denied all charges against him, although a detective who was put in his cell the night of his arrest said he made a confession of the crime to him, and there was some circumstantial evidence also.

Dr. Walker saw the patient with Dr. Fisher, by direction of the district attorney. The conclusion was reached that if the prisoner set the fires in his waking moments he was responsible, and that his own unsupported statements were insufficient to prove that he set the fires in a state of somnambulism although he may have been a somnambulist. The defense of insanity was not made, and the prisoner was convicted and sentenced to five years in the state-prison.

Necrosis of the Jaw. — DR. C. P. PUTNAM showed a specimen of necrosis of the jaw, with loss of teeth, in a nursing child, and gave the following history of the case. When the child was eight weeks a yellowish spot was noticed on the front of the lower jaw over one of the incisors, which proved to be the result of necrosis of the jaw. In the course of a week one incisor came through the opening caused by the suppuration, and the cavity apparently closed up, but during the next four weeks three more teeth and bits of bone came out. The child had been nursed for a week after birth, but was afterwards fed, and its digestion was somewhat disturbed when the necrosis began. The child was wet-nursed after the first tooth came out, and thrived well ; the necrosis continued.

Rubber Plaster. — DR. MCCOLLOM showed a sample of rubber plaster, having as special properties to recommend it its non-irritating effect and the ease with which it adheres without being warmed.

LOOMIS ON FEVERS.¹

IN this interesting volume, which contains the lectures on fevers delivered by Professor Loomis to his class during the last year, we have a concise and impartial review of the literature concerning fevers which has been published since 1850, with reference to a few older books, "because they contain many

¹ *Lectures on Fevers.* By ALFRED L. LOOMIS, A. M., M. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York, etc., etc. New York : William Wood & Co. 1877.

of the so-called new theories and modes of treating fevers." In this are embodied the results of the author's own extensive clinical experience, which has led him to form opinions in certain respects at variance with those of some other observers, and the weak points of theories and modes of practice which have not stood the test of time are clearly set forth.

The first seven chapters are devoted to Typhoid Fever, which, with yellow fever, is classed by the author as a "miasmatic-contagious" affection, an intermediate link between the purely contagious and the miasmatic or malarial diseases.

After an account of the pathology and ætiology of this fever, in which its spontaneous origin is discredited, as it is by most modern writers, the symptoms and treatment are studied and detailed in a careful and satisfactory manner. While early intestinal hæmorrhage is not regarded as of great moment, Dr. Loomis has found this to be a very unfavorable symptom, from a prognostic point of view, when occurring after the twelfth day. Fat persons and those who have passed the age of forty are exposed to danger out of proportion to the severity of the fever. Failure of heart-power is considered as usually, directly or indirectly, the cause of death, and this again is greatly dependent on the high temperature; therefore the reduction of heat is desirable. Although no specific treatment is thought to be of any value, the author says, "The duty of the physician is to guide the disease, so far as he may be able, to a favorable issue, and prevent injury to organs essential to life." . . . "Typhoid fever is a disease that has certain stages to pass through, limited only by days and weeks. There is great doubt whether the physician can shorten its duration by a single day, but experience warrants the belief that many lives may be saved by remedial measures used at the proper time and combined with judicious hygienic management. There are critical periods in this disease; be prepared by knowledge and judgment to carry your patient (if possible) safely through them. Unquestionably one of the most important things to be accomplished is the reduction of temperature, or rather the keeping of the temperature below a certain standard." To accomplish this Dr. Loomis is a strong advocate of the antipyretic treatment by means of cold baths and the sulphate of quinine. With regard to the former he is convinced that after the second week they should not be employed, on account of the danger of collapse and pulmonary complications. In warning against the indiscriminate use of cold baths he says, "Perhaps there is no remedial agent which requires greater care and judgment in its use; yet doubtless, when judiciously employed, the lives of many typhoid patients may be saved, and it is equally certain that when injudiciously employed many lives may be destroyed." . . . "At the present time it seems to me that by some the benefit and power of cold baths in the treatment of typhoid fever have been overrated." In this connection it may be said that the treatment by cold baths is best adapted to hospital practice, but the reduction of the temperature which can be safely accomplished in so many cases by the internal use of sulphate of quinine is a therapeutical resource of great value in the routine treatment of all fevers. Dr. Loomis adds his testimony to that of Wunderlich, Liebermeister, and many others, that thirty or forty grains of quinine, given at one dose or within two hours, suffice in many

cases to reduce the heat to a manageable point, where it may be kept by the occasional repetition of smaller doses. An original dose of from fifteen to thirty grains has been found by others sometimes to answer the same purpose. No danger from cinchonism is to be apprehended.

Simple rules are given for the use of stimulants when they are called for to support the failing heart-power, which is so apt to manifest itself in the progress of the disease, and milk diet is recommended as being the best for the maintenance of nutrition. In this it is probable that most practitioners will agree with Dr. Loomis, but the quantity which he states that patients will usually take, "from four to six quarts in the twenty-four hours," appears to us to be about double the average amount taken throughout cases of severity.

The use of calomel early in the disease, as advised by German writers of late years, does not meet with the author's approval, and he says that "the administration of cathartics as an eliminative procedure has neither reason nor experience to sustain it."

Full and interesting chapters on Yellow Fever, the Malarial Affections, and Typhus and Relapsing Fevers follow, the epidemic of typhus which prevailed in New York from 1861 to 1864, and the more recent one of relapsing fever, having afforded Dr. Loomis unusual opportunities for observing diseases which in this neighborhood are practically unknown.

The acute exanthematous fevers, beginning with small-pox, are the subjects of the final chapters. With regard to vaccination, strong ground is taken by Dr. Loomis in opposition to the continued use of humanized vaccine virus, and after substantiating the usual objections which have been made to this method by the mention of cases which have fallen under his own observation, he says, "Always use the bovine virus when it is possible to obtain it. If compelled to use the humanized virus, use the lymph," — good advice, in the opinion of many, and less frequently followed than it might be to advantage, since the objections to bovine vaccination are not in the main essential to the method, whereas the deterioration and contamination of the humanized virus are unavoidable.

A complete bibliography of twenty pages and an index end the volume, which is of convenient size and printed with large type in exceedingly good style.

1877.

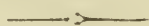
As we look back on the medical events of the passing year, we see few very striking ones, but the general view is cheering. Happy are the years that have no history, and doubly happy, we will add, those that have a good one. This may be said of 1877 with regard to the profession in America. Medical education has advanced. Harvard has begun preliminary examinations, and the University of Pennsylvania has adopted the graded course; both are meeting with success. The various leading societies held satisfactory meetings, with the exception of the ophthalmological, which was prevented by the railroad strike. Dr. Bowditch, of Boston, presided over the deliberations of the American Medical Association at Chicago, and Dr. Richardson, of Louisiana,

was elected his successor. The speeches on this occasion showed that the profession now, as has always been the case, is most anxious to hasten the restoration of complete harmony throughout the country. The meeting of the American Gynecological Association at Boston deserves special mention on account of the great value of the papers presented and of the merits of the discussions. A new association — the Dermatological — held its first meeting at Niagara. Dr. J. C. White, of Boston, was the president. The beginning gives promise of excellent results.

Last year we closed our editorial remarks with the following sentence: "We cannot believe that the iniquity will be longer endured, and we trust that with other 'old shapes of foul disease' the New Year bells will 'ring out' the coroner system." Our hopes have not been deceived; the system is with us a thing of the past, and our State has the honor of being the first to take a step that sooner or later will be followed wherever the English language is spoken. The new system of medical examiners has, so far, proved very satisfactory.

We will not attempt to enumerate the losses we have suffered by death during the year. There have fallen, we believe, but two of wide-spread reputation. In the early days of November Paul F. Eve, the distinguished surgeon, died suddenly at Nashville, and at the end of the same month Edward H. Clarke reached the end of his long illness. Many others have passed away who, though of less renown, have left gaps difficult to fill. We might wish to dwell on the memory of such of them as we knew best were it not that we feared that the choice of any might appear a slight to others. Overcrowded as the profession is, the loss of the conscientious physician is always felt, and not least in smaller communities.

Such is a bare outline of the departing year. There is every reason to expect that the coming one will be marked by quiet progress; we hope all our readers will find it a happy one.



MEDICAL NOTES.

— Jourdain has failed again to get a license for his Museum of Anatomy. The committee on licenses reported very properly that there were sufficient opportunities for legitimate study, and that the effect of such exhibitions on the public was not good.

— The patience of the English with the coroner system appears to be running low. The medical journals are full of accounts of blunders, irregularities, and plans of reform. It is evident that the system has outlived its usefulness everywhere.

— A post-office clerk in Prussia was found to be constantly in trouble with the stamps. The accounts would come wrong. Sometimes there was not enough money in return for stamps sold, and on other occasions there was too much. This made dishonesty on his part less likely, but it was incomprehensible how he could make the accounts so entangled. At length it was discovered that he was color blind, and could not distinguish red from green stamps.

CARNEY HOSPITAL.

SURGICAL CASES OF DR. E. H. BRADFORD.

[REPORTED BY J. B. SWIFT, M. D.]

House-Maid's Knee ; Direct Incision, with Antiseptic Precautions ; Complete Obliteration of the Sac without Suppuration. — M. R., cook, fifty years old, entered the hospital September 16, 1877. The patient stated that she had had the same trouble with the knee before, but never so severe an attack as the present one. The knee became painful without known cause five days before entrance, and later red, tender, and swollen. On examination the characteristic tumor of house-maid's knee was found. The skin covering the swelling was red and brawny, and at a spot below the patella there was evidence of pointing.

An incision was made directly into the tumor. A bloody, serous fluid was evacuated, with little or no pus and no rice bodies ; the skin incised was as brawny as the skin in a carbuncle. The wall of the sac was found to be very firm. No attempt was made to dissect out the sac ; an incision was made on the outer side, and a drainage tube was inserted. The cavity was washed out with a solution of carbolic acid (one to forty), and the limb was placed on a ham splint. No stitches were inserted, as the skin seemed sloughy. The wound was dressed with antiseptic gauze, under spray, and the usual antiseptic precautions were used during the operation. The gauze dressing was changed in the afternoon under spray, as a slight amount of discharge had soaked through ; on the following morning the dressing was again changed, and the cavity syringed out with a solution of carbolic acid. Temperature 98° F.

Three days after the operation the drainage tube was removed. There had been no suppuration and no elevation of temperature. On the eleventh day after the operation the dressing was removed. The sac was apparently entirely obliterated, although there had been no suppuration. The swelling and redness of the skin had disappeared.

Four days later the patient was discharged, being able to walk about perfectly well.

Papillary Tumor of the Perinæum. — C. D., fifty-four years old, a married woman, entered the hospital October 6, 1877. She stated that for the past seven or eight years she had been troubled very much with "piles." Six months previous to entrance she noticed that they had increased in size, and since then they had grown rapidly. At times she suffered severe pain, and she had lost considerable blood.

On examination a large cauliflower excrescence was found on the perinæum, six inches long, four inches wide, and projecting two to three inches above the marginal skin. The mass of the tumor was to the left of the anus, which was hidden by the overlapping lobules of the growth. There was a thin discharge from the surface of the growth, but no ulceration. Any interference with the growth caused hæmorrhage. The greater part of the tumor was connected with the skin by short and comparatively thin pedicles, but one portion was attached by a broad base, around which the skin was inflamed. The tumor

was composed of several lobules, which could be separated exactly as can be done with a cauliflower. A finger inserted into the vagina felt some thickening of the posterior wall, and an examination by the rectum gave evidence of a resisting mass in the left ischio-rectal fossa to the depth of three or four inches; the mucous surface of the rectum was not involved.

Under ether the various lobules were removed with an *écraseur*. No attempt was made to dissect out the portion of the tumor in the ischio-rectal fossa, as the extent and depth of the mass did not seem to justify it. The bleeding from the pedicles was readily controlled by perchloride of iron. There was no subsequent hæmorrhage. The patient, a few days after the operation, was able to walk about and sit down with more ease than before. A week later she returned home. Since then she has had no hæmorrhage, and writes that she has remained quite comfortable.

A microscopical examination of the part removed, as well as of a piece snipped from the mass in the ischio-rectal fossa, was made by Dr. E. G. Cutler. The structure of the portion examined was found to be that of a papilloma. It was impossible to determine, without further surgical interference, whether there was evidence of epithelioma in the remaining mass of the growth.

Separation of the Epiphysis at the Lower End of the Humerus; Recovery with Motion. — E. A., nine years old, entered the hospital October 1st. The patient stated that three days before he fell out of bed, striking on his right elbow. The boy was brought to the hospital with his arm in an internal angular splint.

The arm was examined under ether. The right elbow was found to be swollen. The radius and ulna were dislocated backwards and to the inside. There was no rigidity; on the contrary, supernatural mobility. The deformity could be reduced by extension, but immediately returned. If the humerus were grasped by the shaft and by the external supra-condyloid ridge, which could be felt easily, no crepitus could be detected. But a soft crepitus was felt on pressing just above the head of the reduced radius. No fracture of the ulna or radius or evidence of fracture of the coronoid process could be found. A diagnosis of separation of the lower epiphysis of the humerus was made. The arm was placed in an internal angular splint, with an external coaptation splint. On the 6th the bandages were removed. There being a slight lateral deformity at the inner side, a piece of pasteboard, well padded, was placed on the inner side of the arm. On the 18th firm union, with good position, was found; the arm could be flexed and extended to a slight degree.

Passive motion was applied twice a week until the 31st, when the splints were removed, and the patient was instructed to use the arm as much as possible. At this time the arm could be extended almost in a straight line and flexed to beyond a right angle.

November 7th. Patient reported that he could feed and dress himself, and brush his hair with his right hand.

OBITUARY,

MESSRS. EDITORS, — Dr. William J. Sawin, of Chicopee Falls, died suddenly of apoplexy on the 3d inst., in the forty-fifth year of his age. He was born at Hancock, N. H., August 8, 1833, studied medicine at Northfield, Vt., and graduated at the Dartmouth Medical School in 1854. In the same year he began practice in Watertown, Wisconsin, and remained there till March, 1861, when he removed to Chicopee Falls. In the following June he enlisted as a private in the tenth Massachusetts regiment, was transferred September 6th to the third Vermont regiment as hospital steward, served as contract surgeon from October 1, 1861, to June 21, 1862, was made assistant surgeon, and then brigade surgeon in December, 1862. The last position he held till the expiration of his term of service, June 29, 1864, when he returned to Chicopee Falls, and there spent the remainder of his life.

On the evening of his death Dr. Sawin was to have been installed as Eminent Commander of the Knights Templar in Springfield. The hall in which the installation was to take place was in the fourth story, and a large assemblage had gathered to witness the ceremonies. The doctor, who had long been preparing for the occasion, was already in an excited condition. He ate a hearty supper, and then, being a little behind time, ran rapidly up three flights of stairs to the hall and took his seat on the platform. The exercises began. In about three minutes the doctor leaned forwards and fell dead from his chair. He was a large, muscular man, apparently in the most robust health. By his death Hampden County loses an excellent physician and surgeon and a public-spirited citizen. Dr. Sawin was possessed of an elevated professional spirit, and did more, probably, than any other man in the past decade for the welfare of our district society. At a meeting of the Hampden District Medical Society, held the 5th inst., the following resolutions were adopted : —

Whereas, William J. Sawin, M. D., of Chicopee Falls, a distinguished member of the Hampden District Medical Society, has suddenly been removed from his sphere of usefulness on earth, therefore it is

Resolved, That we, in common with those who are thus deprived of his professional services, deeply regret his loss, and offer to the grief-stricken family our sincere condolence in their sudden affliction.

Resolved, That a copy of the above be forwarded to the family of the deceased, and also to the Springfield daily papers and the Boston Medical and Surgical Journal.

W. W. GARDNER, }
W. G. BRECK, } *Committee.*
S. LAWTON, JR., }

F. W. CHAPIN, *Secretary.*

CHLORODYNE.

MESSRS. EDITORS, — I have used during eight years a prescription compounded according to the following formula, in the same dose, and for the same indications mentioned in the case of Collis Browne's chlorodyne, and have found no difference in the results obtained : —

R̄ Morphiae muriatis	grs. viij.
Aquæ destillatæ	3 ss.
Chloroformi	3 iss.
Tinct. cannabis	3 ss.
Acid. hydrocyanici dil.	gtt. xii.
Alcohol	3 iss.
Olei menth. pip.	gtt. ij.
Oleoresin. capsici <i>vel</i>	gtt. i.
Tinct. capsici	gtt. x.
Misce secundum artem.	

This eliminates the treacle, which can scarcely be an active ingredient in the compound.

EDWIN FARNHAM.

CAMBRIDGE, MASS.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 15, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228			27.46
Philadelphia	850,856	285	17.41	22.88
Brooklyn	527,830	189	18.62	24.31
Chicago	420,000	121	14.98	20.41
Boston	363,940	131	18.71	23.39
Providence	103,000	32	16.15	18.34
Worcester	52,977	19	18.65	22.00
Lowell	53,678	12	11.62	22.21
Cambridge	51,572	12	12.09	20.54
Fall River	50,372	13	13.42	22.04
Lawrence	37,626			23.32
Lynn	34,524	13	17.97	21.37
Springfield	32,976	3	4.73	19.69
Salem	26,739	11	21.39	23.57

BOOKS AND PAMPHLETS RECEIVED. — Ovariectomy by Enucleation. By Julius F. Miner, M. D. (Extracted from the Transactions of the International Medical Congress.)

Statistics gathered by the Department of Physical Education in Amherst College.

Excision of the Knee-Joint. By George E. Fenwick, M. D. (From the Transactions of the Canada Medical Association.) 1877.

The Narcotic Effect of Morphia on the New-Born Child. By W. R. Gillette, M. D. (From the American Journal of Obstetrics and Diseases of Children.) 1877.

Clinical Lectures on Surgery. I. By J. H. Pooley, M. D. (Reprinted from the Ohio Medical and Surgical Journal.)

SUFFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday evening, December 29th, at seven and a half o'clock. The following papers and cases will be read: —

Dr. G. M. Garland, Pneumono-Dynamics.

Dr. W. D. Robertson, Fracture of Leg treated by Swinging Extension.

Dr. E. Chenery, Rupture of the Bowels. Rib fractured by Cough.

Tea, etc., at nine o'clock.

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